

# Regulatory Reforms in the Age of Financial Consolidation

The Emerging Market Economy  
and Advanced Countries

*Edited by*  
*Lee-Jay Cho*  
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**Korea  
Development  
Institute**

**Regulatory Reforms in the Age of  
Financial Consolidation:  
Emerging Market Economy and  
Advanced Countries**

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Korea Development Institute  
and  
East-West Center



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## Preface

The continuing trend of financial consolidation over the last few decades, mostly driven by deregulation as well as technological advancement, has dramatically changed the landscape of the financial industry. These changes have led financial markets to become more integrated and competitive, not only geographically but also across businesses. Though the changes are happening, the patterns and the timing of these changes differ in every country. For Korea, financial consolidation came about largely after the onset of the 1997 financial crisis. Indeed, Korea's financial industry has changed significantly, due to financial consolidation and conglomeration through the process of financial restructuring.

The rapidly changing environment needs to be accompanied by a new regulatory and supervisory system to ensure financial stability, protect financial consumers, and prevent systemic crises. More specifically, as financial sectors such as banking and securities become more integrated, the regulatory system needs to change from institutional and product-based regulation to functional-based regulation. In addition, financial supervision needs to move toward a more risk-based, consolidated system to mitigate financial risks of individual financial conglomerates as well as the potential of systemic risk.

With these considerations in mind, a conference on "Regulatory Reforms in the Age of Financial Consolidation: The Emerging Market Economy and Advanced Countries," organized by the East-West Center (EWC) and the Korea Development Institute (KDI), was held in Honolulu, Hawaii, in July 2004. The EWC-KDI conference gathered renowned scholars and practitioners from the United States, the United Kingdom, Japan, Australia, and Korea, to present and discuss issues surrounding financial regulatory reform due to financial consolidation. The conference allowed the international comparison of recent financial regulatory reforms from the perspectives of advanced countries and Korea. The conference participants presented their experiences of recent prevailing financial regulatory issues such as legal reforms and regulatory innovations. This shed light on the fundamental differences in financial environments in different countries as well as country-specific factors such as underlying economic, political, and institutional forces that should be considered when regulatory change is under way. Also, the conference participants addressed supervisory issues related to financial consolidation and conglomeration to bring about an efficient and stable financial system. In particular, they discussed specific supervisory requirements that should be enforced to reduce the potential systemic crisis. Finally, the conference was brought to a close by conducting a roundtable discussion of major findings and policy implications of regulatory reforms.

On publishing this volume, I would like to thank Dr. Lee-Jay Cho, Emeritus Senior Fellow of the East-West Center, and Dr. Joon-Kyung Kim, Vice President of the Korea Development Institute, for coordinating the conference and preparing this volume for publication. I would like to give my special thanks to Dr. Choongsoo Kim for chairing the roundtable discussion at the close of the conference. My gratitude also goes to Kennon Breazeale for production coordination, as well as Kwangsung Kim and Nanhee Kim for their work in preparing the roundtable discussion proceedings. Finally and not least, I also wish to thank the authors of the papers, the discussants, and other participants who contributed to the conference.

Jung Taik Hyun  
President  
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# Introduction and Overview

*Lee-Jay Cho and Joon-Kyung Kim*

Financial regulation has been based traditionally along clearly differentiated functional lines and divided among financial sectors—usually banking, securities, and insurance. Since the 1970s, however, financial markets have been undergoing a trend of *financial consolidation* largely driven by the forces of globalization, deregulation, and technological development. As a result, the former lines of differentiation have become blurred, and questions have been raised about the sustainability of the current regulatory framework in both emerging markets and more developed economies. Many of the existing regulations designed for specific financial institutions may not achieve regulatory objectives such as protecting financial consumers, maintaining market stability, and preventing systemic crises.

To keep pace with the trend of financial consolidation, many countries have begun to modernize financial regulation—or are in the midst of modernizing it—by implementing reforms on financial supervision and regulatory statutes. For example, in 1997 the United Kingdom created a single regulatory body by consolidating nearly a dozen supervisory agencies, which eventually became the Financial Services Authority (FSA). The enactment of the Financial Services and Market Act (FSMA) in 2000 gave the FSA full power to oversee nearly all sectors of the financial services industry. By contrast, the United States still continues to maintain a decentralized and fragmented structure of financial regulation, but its efforts in the direction of financial modernization are noticeable in the 1999 Gramm-Leach-Bliley Act, which opens the door to further financial consolidation. Korea, as an emerging market economy, has already consolidated its regulatory bodies and is now moving toward reform of its financial services laws. It can be said that the modernization of financial regulation across countries has been a continuous process of transformation, even though the extent and timing of the change may vary for each country. The regulatory reforms of each country appear to follow the global trend of liberalizing financial markets; nevertheless, the situation in each country, often dictated by its domestic environment, provides quite a distinct story.

Owing to fundamental differences among different countries, such as the contrasting regulatory structures that set the United States and the UK apart, the differences in the financial environment, particularly between advanced and emerging market economies, limit the lessons from international experiences that the emerging market economies can draw. Further, many emerging market economies must deal with problems of a systemic nature and thereby generally face difficult challenges in upgrading their financial soundness. One difficulty is specifically related to identifying and measuring risk and persisting incentive problems deeply rooted in the

societies. In addition, the origins of risk in these economies are so diverse and highly volatile that issues of systemic crises pose serious concerns. Therefore, the specificity and varying path dependency of each economy should be carefully examined.

With this background as a setting, the conference organized in 2004 by the East-West Center and the Korea Development Institute (EWC-KDI) aimed to assess the regulatory implications of financial consolidation in emerging market economies and to draw out policy directions. In order to shed some light on these issues, the experiences of more advanced economies, such as the UK and the United States, were examined for comparison. By looking at both general commonalities among all countries and those specific to emerging market economies, the conference sought a better understanding of the regulatory and supervisory framework that is needed to enhance financial stability and economic efficiency in emerging market economies. Some of the major issues that were addressed include the following: first, the fundamental differences in the objectives and scope of financial regulation in the financial environment between advanced economies and emerging market economies; second, the specific risks associated with the functions of financial activities such as banking, insurance, and security intermediation, as well as the specific risks associated with financial institutions that carry out multiple financial activities; third, the appropriate regulatory requirements for each type of consolidated financial institution—in particular, regulatory requirements for financial conglomerates; and fourth, measures to protect financial consumers and to foster competitiveness among financial institutions.

This volume is one product of the 2004 conference and is divided into two parts. Part I focuses on recent financial regulatory reforms in Australia, Japan, the United States, and the UK and then proceeds to examine financial regulatory reform in the context of Korea. The authors provide international experiences by discussing recent financial regulatory developments such as legal reforms and regulatory innovations. For a better understanding of the changing financial regulatory landscape in both advanced countries and emerging market economies, the authors touch upon the underlying economic, political, and institutional forces behind the reform processes. The chapters by the main authors are followed by commentaries on the respective topics.

Part II assesses supervisory issues related to financial consolidation. The authors address issues of regulatory statutes and financial supervision that can contribute to creating an efficient and stable system. Accordingly, they examine risks associated with individual financial products and activities and the risk characteristics of financial conglomerates and systemic risks, as well as their measurement and supervisory responses.

Although the volume concludes with general policy implications, the task of financial regulation is far from complete, and ongoing develop-

ments in markets, products, and technology are sure to keep up the pressure on regulators for the foreseeable future.

### **Part I.**

#### **Legal Reforms of Financial Regulations: International Experiences**

Michael Foot, in his chapter on “Legal Reforms of Financial Regulations: Case of the United Kingdom,” outlines the organization of British financial regulation up to the late 1990s. After a brief historical perspective on the evolution of banking supervision in the UK, he explains why and how the FSA was created in 1997 and discusses the main challenges it faced in the first six years following its inception. He contends that the breakdown in barriers between traditional financial services, the development of complex new financial products, dissatisfaction with the existing compartmentalized regulatory structure, and the hope of considerable economies of scale all played their part.

Foot describes how the new regulatory body took more than four years to reach the statute books. This period witnessed the process of consolidating eight distinctly different predecessor bodies and introducing new techniques—even a new regulatory “language” called ARROW. As a result, increased powers were given to the FSA by the government. The author outlines the way the FSA seeks to meet its statutory objectives and the seven principles of good regulation set out by the government. Foot also explains the key choices that had to be made concerning corporate governance, financing, and the public and political accountability of the FSA, particularly the important tripartite relationship between the ministry of finance, the central bank, and the FSA. Foot points out that the creation of a genuinely “new” regulator required new supervisory approaches and the development of a new “language.” Furthermore, the chapter underscores the need to greatly improve the financial understanding of the British public, which had been very low. The author compares the British FSA model with other international regulatory models and provides brief comments on similarities and differences between the British and Korean models.

Choong-Kee Lee, in commenting on the chapter, largely agrees with many of the points set out by Foot. After providing a brief outline, Lee makes some observations on financial regulation in the UK and raises some key issues in the context of Korea. Aside from identifying and reiterating many of the challenges mentioned in the chapter, Lee points out that, among the several challenges identified, an important issue for Korea is to improve the financial capability of market participants, since the level of financial sophistication among the Korean public is very low—which was also the case in the UK before the initiative to raise public awareness was taken. However, in the UK the initiative on financial capability was backed

by the FSA, which made carrying out such an initiative easier, owing to the economies of scale. Lee stresses that Korean regulators should look at this important point in their efforts to educate the public.

With regard to Foot's view on the Korean financial regulators, Lee generally agrees with the observations on Korea's regulatory supervision and adds some additional comments. The chapter identifies the importance of improving corporate governance, since the Korean regulatory regime is still in transition, and he also raises other issues, including the complex appearance of the financial regulatory structure, the uncertainty surrounding the independence of the regulators, and so on. Lee agrees that the issue of improving corporate governance is important, but it cannot be accomplished overnight. This task is made more difficult in part because most of the reforms have emphasized structure rather than conduct or performance. So, the reforms are often carried out without the necessary pool of competent and independent personnel. On the issue of whether the current regulatory structure needs reform, Lee points out that because of Korea's unusual regulatory structure, where both regulatory bodies work together but act separately, the efficacy of the structure has often come under scrutiny. Although it would be better to strengthen Korea's Financial Supervisory Service (FSS) rather than the Financial Supervisory Commission (FSC), this would be possible only if the FSS merges with the FSC and has an efficient level of personnel with special expertise. Therefore, as Lee sees it, the most important thing at this stage is to create a *new* culture, not only between divisions within the FSS but also between the FSC and FSS. Further, the conflicting responsibilities between regulators must be addressed. At times the responsibilities of the Ministry of Finance and Economy (MOFE), as an economic and financial policy maker, conflict with the responsibilities of the FSC as the prudential regulator and the restructuring authority. There must now be discussion concerning greater independence between the functions of regulation and restructuring.

In the next chapter, Howell Jackson offers "An American Perspective on the UK Financial Services Authority: Politics, Goals, and Regulatory Intensity." He points out that similarities between the British and American systems of financial regulation are often cited in academic studies, even though the organizational structure of financial supervision in the two countries has diverged substantially in the past decade. The UK has now largely consolidated its financial regulatory agencies in the FSA, whereas the United States has maintained the world's most decentralized and fragmented collection of financial supervisory agencies.

Jackson explores the reasons why financial regulation in these two countries differs so dramatically in organizational structure. Focusing first on the differences in political economy that surrounded the enactment of the FSMA of 2000 in the UK and the Gramm-Leach-Bliley Act of 1999 in the United States, he discusses deeper differences in the regulatory

philosophies of the two countries and also presents data on the relative intensity of financial regulation in both jurisdictions. He speculates that the comparatively more ambitious regulatory agenda of the U.S. system pushes the country toward a more elaborate system of financial oversight that is inherently more difficult to consolidate.

In the UK, in contrast, the goals of the financial regulators are more modest. To the extent that cost efficiency is one of the country's regulatory objectives in the field of financial regulation, the British policy tends to foster a less cumbersome system of financial regulation that more easily accommodates consolidation of regulatory functions. The chapter concludes with some broader comparative data suggesting that, while British financial regulation may be less intensive than its counterpart in the United States, it is substantially more intensive than financial regulation in many other jurisdictions—particularly civil law jurisdictions in continental Europe.

Sung-In Jun commends Jackson's very informative examination of the different regulatory organizational structures of the United States and UK, as well as the chapter's well-balanced approach between institutional and empirical aspects. Jun then addresses several reasons identified by Jackson for explaining the divergence in the organizational structure, such as differences in political economy and the regulatory objectives. Jackson argues that the main objective of financial regulation in the UK is market stability, and other objectives such as protecting depositors and investors are pursued only after cost calculations justify it. The United States takes the opposite approach: Protection of depositors and investors is the most important objective, and it is usually pursued in the absence of cost calculations.

Jun raises some questions regarding Jackson's hypothesis on regulatory intensity and consolidation. He agrees that financial regulatory agencies, if sensitive to cost constraints, tend to show lower regulatory intensity and may consolidate if economies of scale or scope exist. But it is not all that clear why low regulatory intensity itself tends to cause consolidation. Jun contends that the empirical evidence seems to be somewhat mixed. As predicted, the United States shows high regulatory intensity under a very fragmented structure. The UK also shows relatively higher regulatory intensity compared with other countries after the appropriate normalization under a consolidated system. Under a "twin-peaks" model, Australia's intensity is as high as or less than the UK's, depending on normalization. Jun then proceeds to share Korea's experience in regulatory reform after the 1997 financial crisis. Though the consolidation of supervisory structure was partially influenced by the UK experience, he contends that functional supervision, the very premise of consolidation, has not yet been introduced. So, Korea's current situation is like that of many regulatory bodies living together in one big house. Jun concludes by saying that



sometimes movement toward consolidation may be driven by other motives or effects and not just by achieving economies of scope.

Berna Collier's chapter, "Australia's Regulatory Response to Financial Consolidation in the Context of Globalization," provides a historical overview of the regulatory reforms that have marked Australia's financial consolidation in the financial sector. First, deregulation in the 1980s opened the doors to cross-border and cross-industry consolidation. Foreign banks were allowed to enter the Australian market, and domestic banks were able to diversify the services they offered to their clients. Second, the Wallis Report in the 1990s annulled the systemic regulatory inefficiencies experienced after deregulation. It rationalized Australia's regulatory framework, based on functional lines that established a twin-peaks regulatory model, comprising the Australian Prudential Regulation Authority (APRA) and Australian Securities and Investments Commission (ASIC). Third, the financial services reform after the turn of the century imposed universal licensing and disclosure requirements across the financial services industry. It regulates a spectrum of financial services, focusing on their economic function rather than their design.

Collier reasons that the globalization of financial markets directly challenges ASIC's ability to achieve its overriding regulatory objectives: to protect investors, promote market integrity, and reduce systemic risk in a cross-border regulatory environment. ASIC supports financial consolidation—within the context of globalization—through the twin peaks of regulation, a universal licensing and disclosure regime, and the proposed integration of the International Accounting Standards.

Collier concludes by spotlighting three regulatory trends in the context of the global environment: first, encouraging regulatory competition between financial centers, in the hope that regulatory standards will converge to an acceptable global standard; second, harmonization through increasing cross-border cooperation, convergence, and comity; and third, establishing a single global markets regulator or regulatory system. The differences in legal structure, market development, national policy goals, and culture all mean that global harmonization is a long-term and difficult objective. The author points out that significant progress is being made toward harmonization in the financial services sector, both at the regional level between Australia and New Zealand and at the international level through bodies such as the International Organization of Securities Commissions (IOSCO), the Basel Committee on Banking Supervision, the International Association of Insurance Supervisors (IAIS), and the Joint Forum on Financial Conglomerates.

Sunseop Jung, in his comments on Collier's chapter, echoes many of the financial regulatory challenges ahead in the face of consolidation of financial markets. A financial regulatory system can properly perform its purposes and functions when it correctly reflects the structure and reality

of the financial markets. Jung points out that countries have responded to these challenges in two ways: One is establishing an integrated megaregulator, and the second is integrating all or part of their financial regulatory laws. For instance, Korea transformed its regulatory system from a multiple regulator system, based on institutional features and product definition, to the current single regulator system, which in his view was a response to financial consolidation. However, there needs to be more discussion on the long-term impact of financial consolidation on the regulatory paradigm.

Jung proceeds by arguing that the twin-peaks model can be a viable alternative to the UK-style regulatory model. However, there could be a potential for conflicts of regulatory objectives and institutional jurisdictions between the prudential regulator (APRA) and the nonprudential regulator (ASIC). And he asks if there are any cases of such conflicts and their resolution. With regard to the regulation of securities and futures contracts, Jung argues that Australia's old companies and financial services legislation (the Corporations Law) was, in essence, a system based on U.S.-style multiple regulations of institutional features and product definitions. Since the problems of restricted definitions of securities and futures contracts were the natural consequences of the institutional and product-based regulatory system, the only solution was to introduce a regulation based on the reality of consolidated financial markets—simply, a functional regulation.

Hideki Kanda presents “A Japanese Perspective on Regulatory Reform in the Financial Sector,” with a focus on the theme underlying reform in Japan's financial sector. He basically argues that unique developments in Japan are producing nonunique results and that there are different ways of responding to common problems in modern financial regulation. He begins by providing an overview of Japan's “Big Bang” and modernization of financial regulation, as well as describing the major reforms since 1996 and their impact on the financial markets. While the major focus is deregulation in the financial sector—particularly the capital markets, such as broker competition, stock exchanges, mutual funds, and asset securitization to name a few—Kanda mentions various measures initiated to address the banking crisis. He also examines the dynamics of Japan's political economy related to the reforms, particularly the bureaucracy's role and the political power of the relevant industry. Kanda attempts to lay out a general theory for describing *when* reforms succeed or fail.

Kanda also discusses future reform issues, such as creating comprehensive financial services legislation and various bills being discussed by the Diet. Some of the issues include restructuring the Securities and Exchange Act, introducing an administrative penalty in the securities law, reforming publicly sponsored financial institutions, and overhauling trust business regulation. Kanda looks at the “Japanese model” from a compar-

ative perspective by focusing on specific examples, such as full protection of “bank deposits for payment” and securities settlement system reform, which seem unique, as well as analyzing their significance and implications in relation to the global economy.

Commenting on this chapter, Inseok Shin praises its analysis of financial regulatory changes in Japan. However, although the arguments are convincing, Shin still holds some reservations about certain issues. The chapter provides not only a succinct overview of recent regulatory trends in Japan but also an authoritative assessment of driving forces behind the changes and their implications. As Shin points out, Kanda depicts the regulatory reforms as a government-driven implant of capital-market-related regulations in addition to some financial safety net measures due to the financial crisis. Three questions naturally arise: Were the reform efforts genuine? Will the regulatory implants fit in the existing system? And will the changes yield their intended effects? Shin finds Kanda’s assessment to be favorable. Kanda conjectures that the reforms in the Japanese financial system will likely move toward a capital-market-based one, and that future financial regulations relative to global standards will differ only in form but will be common in substance.

Shin is hesitant, however, to agree with Kanda’s claim that the recent legal reforms will bring about regulatory convergence, at least in substance, between Japan and other capital-based economies such as the United States. The critical difference between Japan’s financial regulations (under a civil law tradition) and those under a common law tradition is “legal formalism.” The Japanese regulation statutorily defines financial instruments and services that financial institutions can deliver, while providing detailed legal definitions of those instruments and services. Since legal formalism precludes private financial innovation, new products and services can be introduced to the market only by government-driven reform. Though skeptical of how much convergence will be achieved between the regulatory systems of Japan and the United States, Shin notes that some promising progress has been made in this regard, citing Japan’s deregulation of fixed brokerage commissions as an example. Shin concludes by stating that the history of the United States and the UK demonstrates that the combination of competition and freedom to spur innovation has brought about the accelerated growth of their capital markets since the 1980s. In any case, it will be interesting to see whether Japan can emulate their experiences.

The final two chapters in Part I examine financial regulation in the context of Korea. In the chapter on “Consolidation of Financial Services Laws in Korea: An Interim Report,” Konsik Kim and Sunseop Jung take the view that a country’s financial regulatory system, if it is to function properly, must correspond to the structure and realities of its financial markets. In response to the consolidation of financial markets, several

countries—including the UK, Japan, and Korea—have moved toward a single regulator. So, the next step may be to adopt a consolidated financial services law. Only a few countries, however, have dared to move into this stage, the UK being a prime example.

Kim and Jung point out that in March 2003, Korea's MOFE announced its intention to consolidate existing financial services laws into a single statute. The Consolidated Law Project covers almost all the sectors in financial services, such as banking, securities, and insurance. Further, such legal regulatory reform is an effort on the part of MOFE to change its traditional "interventionist" approach to a more "market-friendly" one.

As part of a project commissioned by MOFE, the chapter provides an interim report on Korea's consolidation of its financial services law by giving an overview of the complex regulatory landscape of Korea's financial services industry. Also, the authors discuss the factors leading the government's legal reform efforts as well as some of the basic concepts of financial products and services, which are the linchpins of consolidated law.

As a response to the trend of rapid financial consolidation, the Consolidated Financial Services Law aims to create various benefits. First, the authors argue that the introduction of the act could contribute to addressing issues related to the regulatory definition of financial products. This measure could significantly reduce concerns regarding the tradability of a new financial product on the part of financial institutions and provide adequate protection to investors. Second, the act could eliminate the potential for regulatory inequality based on unreasonable grounds. Third, the act could significantly address the problems caused by vertical and horizontal dispersion of regulatory rules.

In his commentary, Hideki Kanda remarks that Korea's attempt to introduce consolidated legislation for the entire financial sector is timely, challenging, and impressive. While Kanda agrees with many of the views of the two authors, he also makes a few argumentative points. In his view, what is important is the substance, not the form, and therefore more attention should be given to the cost of enforcement. Hence, the key question is: What will and should change in substance? Indeed, the two authors note that the proposed consolidated statute will not change the substance much, except for the statutory definition and coverage of financial services and products. But supporting a functional approach would be helpful and desirable, for considering *which* substantive changes should occur. Kanda also adds that no regulatory system functions well unless accompanied by proper regulation and enforcement. The value of regulation must be determined by both its benefits and its costs. So, the key issue for any jurisdiction is how to design and maintain an effective regulation and enforcement system through considering these benefits and costs.

Further, Kanda argues that the design of consolidated financial regulation must be accompanied by a flexible regulatory structure. The two

authors seem to be well aware of this point and address, for example, the difficult question of designing the layers of lawmaking, down to subsidiary regulations and even self-regulatory rules and guidelines. In concluding, Kanda addresses the question of *when* drastic reform or transplantation of legislation from other countries happens and is successful. The “fit” between the imported rule and the host environment is crucial to success at both the micro and the macro levels.

In the next chapter, on the “Evolution of Korean Financial Regulations: Determinants and Prospects,” Inseok Shin addresses the determinants and prospects of changes in Korean financial regulation, and he discusses their historical origins to identify factors dictating current changes in Korean financial regulation. Accordingly, three views are offered on the birth of financial regulations using studies of advanced countries: (1) responses to systemic risk inherent in financial markets; (2) rent-seeking instruments in favor of certain interest groups; and (3) reflection of political beliefs, agenda, or structure. Shin argues that the birth and evolution of past Korean financial regulations are most consistent with the political view of financial regulations, where the Korean-specific political agenda was “government-driven economic development.” With the political factor given exogenously, financial regulation in Korea was designed as a tool for “government intervention in the markets” that allows maximum discretion to the government in influencing financial resource allocation. The author tries to assess how the fundamental nature of the regulation has impacted both its substance and system. In terms of regulatory substance, Shin focuses on three major areas: regulation of financial products and activities, regulation of business scope, and regulation of investor protection. In terms of regulatory system, Shin addresses those that carry out legislation, enforcement, and the role of the court or judicial review. He explains how the political agenda of providing maximum discretion to the government was translated into the legal structure of “government supremacy.” A comparative legal perspective is taken while using Anglo-American financial regulation as a reference. Then, the author depicts the initial environment that supported the past regulatory structure as a sustainable equilibrium and notes subsequent environmental changes that impaired the sustainability. Finally, Shin discusses regulatory changes that the new environment is likely to bring about, as well as the challenges policy makers face in carrying out a desirable transition.

Berna Collier comments on the developmental state model as a framework for understanding the evolution of Korea’s financial regulations. She points out that Shin’s conclusion intersects with an important aim of the 2004 conference—namely, to consider the reform of Korea’s regulatory framework for coping with global financial trends such as financial consolidation. The developmental state model presented reveals a number of similarities and differences between Australia and Korea, although as

noted in Shin's chapter, there is a need to keep in mind legal, political, cultural, and religious factors, all of which influence a country's financial regulations and regulatory structures.

Collier describes some of these factors. First, external forces such as globalization and liberalization contributed to dismantling the developmental state, while they were also driving forces for regulatory reform in Australia. Second, state supremacy in the Korean legal system contrasts with Australia's separation of powers, which makes executive and legislative decision judicially reviewable. Third, the Korean executive overrides the regulator, whereas in Australia, the corporate and financial services regulator is independent of the executive. Collier also points out that ASIC can develop policy, recommend legal reform, and engage in public consultation through policy proposal papers. Fourth, positive regulation as in Korea has also been instituted in Australia, through the recent introduction of a streamlined licensing regime. Lastly, Collier mentions that crisis management, which may be reconfigured in Korea, is carried out by the Council of Financial Regulators in Australia, which consists of the Reserve Bank of Australia, APRA, and ASIC. The council is responsible for coordinating regulatory responses to financial instability and advises the government on the regulatory structure of Australia's financial system.

In concluding, Collier emphasizes that transformation to a liberal regulatory state does not necessarily mean less stringent regulation, nor that the government renounces complete control. Further, liberal regulatory states, such as Australia, also require strong governments and a certain degree of control to achieve regulatory objectives. Therefore, finding the right historical context and regulatory culture, such as a "rationalized developmental state," which takes account of Korea's legal and political landscape, will help Korea achieve effective structural and regulatory reform.

## **Part II.**

### **Supervisory Challenges under a Consolidated Financial System**

The first two chapters of Part II of this volume look at the supervisory challenges under a consolidated financial system by assessing the regulatory responses in Korea's financial sector as well as the risks and issues surrounding financial conglomerates. In the chapter on "Risks and Supervisory Challenges of Financial Conglomerates in Korea," Joon-Ho Hahm and Joon-Kyung Kim examine the recent trend of financial consolidation and conglomeration in postcrisis Korea. After assessing the progress in financial restructuring, they examine the implications of consolidation and conglomeration for both financial risks of individual conglomerates and systemic risk potential. The authors provide further analysis on various ways that financial consolidation and conglomeration can impact financial stability.

While it may be premature to draw conclusions, analyses suggest that geographic and cross-industry diversifications in Korea may be limited in reducing financial risk for individual conglomerates. In addition, the authors find that consolidation has heightened the potential of systemic risk, since both direct and indirect interdependencies among large banking institutions have substantially increased in the postcrisis period. Furthermore, the analyses indicate that financial conglomerates have become more vulnerable to the risk of contagion from nonbank and nonfinancial firms as they increasingly move into high-risk activities that are closely tied to nonbank financial firms and capital markets.

The authors urge that as risk structures shift, financial supervision and regulation must be upgraded toward a more risk-based, consolidated system. Currently in Korea, only a rudimentary form of consolidated supervision is applied to financial holding companies, and no consolidated supervision has been introduced for other types of financial conglomerates. For instance, the provision of prompt corrective actions must be based on fully consolidated group capital adequacy, and effective supervisory devices need to be introduced to avoid inadvertent extension of the public safety net to cross-sectoral activities of financial conglomerates. At the same time, the authors maintain that strengthening internal controls and risk management capacities at financial conglomerates is critical, as well as establishing strong market discipline by improving information transparency and monitoring incentives in the financial market. For early detection and better management of potential systemic events, the authors emphasize the necessity of establishing an effective institutional mechanism for communication, cooperation, and checks and balances among related regulatory authorities.

Howell Jackson generally agrees with Hahm and Kim on the many challenges of supervising financial conglomerates, particularly the claim that the impact of financial conglomeration on institutional risk taking and systemic risk can be ambiguous. Jackson postulates that if financial conglomeration has negative implications for regulatory control, then empirically one must question whether this drawback outweighs the benefits of financial conglomeration, principally through geographic and product diversification but also through operational efficiencies. The two authors of the chapter investigate various correlations within industry sectors and across industry sectors in the Korean financial services market. While correlations vary in different contexts, their interpretation of the data is that correlations in performance are relatively high, suggesting that the benefits of diversification are lower than one might have expected. Howell points out, however, that while these correlations are suggestive, there are broader measures that can be used to compare the risk profiles of consolidated and unconsolidated activities.

How should Korean regulators supervise financial conglomerates? Jackson makes a number of suggestions, discusses them, and still finds some limitations. He argues that imposing a more stringent system of prompt corrective action (PCA) on financial conglomerates is one option; however, PCA depends on accurate capital measures and, at the present time, a good system of capital adequacy regulation for conglomerates does not exist. This is partially because it is so difficult to determine the effect of consolidation on group risk and the level of capital financial conglomerates should hold for nonfinancial affiliates and minority interests in other firms. Since prompt corrective action depends on accurate measures of groupwide capital adequacy, reliance on this regulatory tool is not the best supervisory tool available.

Hahm and Kim suggest an increase in supervisory oversight of financial conglomerates based on the New Basel Accord (Basel II) and the European Union Directive on Financial Conglomerates. Although supervisory standards used in place of formal regulatory oversight can be a good alternative, Howell points out that supervisors would have difficulty in gaining enough knowledge of the business of a complex financial conglomerate to understand the risk profile of such a firm. Since firms are constantly revising their own risk analyses and often make mistakes or revise practices, supervisory bodies at best can only try to understand how financial conglomerates monitor and manage firmwide risks. On the issue of market concentration, Howell wonders whether there is not a better way to deal with the possibility that financial consolidation might reduce the intensity of supervisory oversight. The analysis in the chapter assumes that once firms exceed a certain size, their market power starts to undermine regulatory efficiency. But if that is the case, another approach would be for financial regulators to limit the ability of firms to enter into mergers or acquisitions above a relevant threshold. U.S. banking regulators are used to illustrate this point. Howell argues that this approach would not only reduce the ability of financial conglomerates to extract monopoly rents but would also retain the efficacy of regulatory oversight.

Hyeon-Wook Kim and Chang-Gyun Park, in their chapter on "Risk and Capital Regulations on SME loans in Korea," draw attention to the important issue of capital regulation in the Korean banking industry and more specifically to the implications of implementing Basel II for loans to small and medium-size enterprises (SMEs) in Korea. By utilizing a multi-factor risk model, they show that the credit correlation among portfolios of SME loans decreases as the asset size of the borrower increases. The empirical results of the analysis seem to indicate that the presumed positive relationship between the borrower's size and credit correlation, as proposed by the Basel Committee, cannot be supported in Korea.

The authors' findings suggest profound implications for the overall stability of Korea's banking sector, unless a careful approach is taken in



establishing the level of regulatory capital against SME loans. The proportion of credit to large firms fell from 15.6 percent at the end of 1997 to just 5.3 percent at the end of 2003, whereas in the same period, household credit increased from 51 to 249 trillion won and SME credit increased from 92 to 217 trillion won. Thus, the adoption of Basel II would further shift the balance toward retail and SME loans. Indeed, simulation analysis indicates that adhering strictly to the current version of Basel II may drive a wedge between economic and regulatory capital charges for SME loans in Korea. Moreover, the authors argue that various risk mitigation instruments under Basel II, such as treating SME loans as retail loans, would most likely aggravate the problem further. The analysis is also suggestive of the need by financial supervisors to consider the industrial composition of SME loans when adopting the New Accord and other proposals. The average sensitivity and credit correlations of SME loans classified by industry reveal great differences among industries. Accordingly, regulators may require banks to pay special attention to establishing higher capital charges on SME loans to the construction or services industry.

Hyun Song Shin points out that the findings of Kim and Park's interesting and well-executed empirical analysis are not favorable to the changes proposed by Basel II in terms of SMEs. Utilizing a multifactor Merton model, the analysis shows that the correlation of SME exposures is smaller for larger firms, which is opposite to the assumed relationship. Shin comments further that the recent Basel II proposals have some peculiarities, one of which is the treatment of SMEs. Under the advanced internal ratings based approach (A-IRB), the capital charges for loans to SMEs are lower than those for general corporate borrowers for any given probability of default. Moreover, banks must treat SME exposures as a homogeneous portfolio (in the same way that they treat their retail portfolios), and in instances where the exposures are small, the banks are permitted to apply the risk-weight formula for retail exposures to calculate the capital charge. The chapter reports the marked shift in recent years in the composition of loan portfolios of Korean banks toward household and SME exposures and away from large firms. Thus, the special treatment of SME lending under Basel II affords Korean banks some leeway and may be of some comfort to Korean regulators if Basel II is adopted in Korea.

Shin also discusses the problem of how banks' incentives would be affected by the rules on capital charges and the resulting effects on the actual composition of the loan portfolio. The issue is the endogeneity of credit risk arising from the portfolio decisions of banks, which in turn arise from the rules on capital requirements that are in place. The endogenous nature of risk is important when considering the impact of capital requirements on overall economic stability. In general, there may be some important shifts in the strategies pursued by banks in response to Basel II. First, banks are likely to push more capital into retail activities to take advantage

of lower capital requirements. More broadly, Basel II will alter the relationships surrounding commercial lending in fundamental ways. In addition, the fact that Basel II will bring regulatory capital more in line with economic capital is likely to affect strategic decision making at banks relating to the choice of business lines to pursue.

Three additional chapters in Part II of this volume examine supervisory challenges in crisis management. In the chapter on “Regulation and Policy Response to Systemic Crises,” Hyun Song Shin sets out a conceptual framework for the analysis of financial crises that have a “systemic” element. He contends that the distinguishing feature of such crises is the spillover effects across markets and financial institutions through collateral constraints, declines in market values of assets, currency mismatches on the balance sheet, and the endogenous amplification of financial distress. The precise channels of propagation of the crisis determine the appropriate policy response *ex post* and also the appropriate preventative regulatory measures *ex ante*. The author provides a taxonomy of the various channels and illustrates them with examples from historical crisis episodes—both recent and old.

One theme that emerges from the analysis is the importance of liquidity regulation for financial institutions as a complementary policy tool to the more standard capital regulation. One purpose of financial regulation is to mitigate the negative externalities across financial institutions in crises. For emerging market economies, which are more vulnerable to systemic crises than advanced countries, this role of financial regulation takes on critical significance. Capital regulation attempts to set the “tax” on the financial institutions as a function only of the assets held by that institution. However, just as in the theory of Pigouvian taxation for externalities, the optimal tax for a financial institution is a function of the assets (and liabilities) held by all institutions. Depending on the precise propagation mechanism of the systemic crisis, it is possible that liquidity regulation comes closer to the optimal Pigouvian tax than capital regulation does. Shin closes with a number of policy conclusions. In particular, he argues that raising interest rates in the face of a currency crisis can have the perverse effect of exacerbating the crisis if the currency crisis is accompanied by a banking crisis, which happened in many Asian countries in 1997, in Germany in 1931, and elsewhere. Also, the role of the central bank in financial regulation takes on added significance, since the role of crisis manager cannot easily be separated from the monetary policy function.

Joon-Ho Hahm, in his comments on this chapter, praises Shin’s intuitive and succinct explanation of the nature and channels of systemic risk in modern financial markets. While Hahm agrees with most of the major arguments, he raises a set of questions and issues. The first issue pertains to the nature of systemic contagion in the banking system. Hahm notes that the main trigger of the endogenous risk in the chapter is the interac-

tion between minimum capital requirements and the “marking to market” of the bank balance sheet, which causes forced sales of illiquid assets. Hahm points out that, in reality, bank capital and assets are not fully marked to market and that the minimum capital requirement may yield a stabilizing effect once the model considers more typical sources of a run on a bank: asymmetric information and the first-come, first-served nature of deposit contracts. Second, Hahm notes that an extension of the model toward heterogeneous banks would be rewarding, because the failure of a large bank in a concentrated banking system would yield a nontrivial implication on the sensitivity of asset prices to asset supply. Third, Hahm points out, as an interesting policy implication of the chapter, the joint provisioning of liquidity and capital buffers, as an additional liquidity buffer may be necessary to cope with negative capital shocks. Hahm concludes by commenting on the role of the central bank in the theoretical model. Shin emphasizes the role of the central bank as a lender of last resort, as timely liquidity provision is critical in mitigating the fall of asset prices. Hahm observes that this implication is not directly warranted in the theoretical framework, because there is no direct mechanism through which the provision of liquidity can prop up the capital ratio of troubled banks. Hahm emphasizes that none of these issues and questions undermines the contributions of the chapter. Instead, they are raised as an interesting future research agenda.

In the chapter on “Identification and Management of Systemic Risks: Macro and Micro Evidence in Korea,” Dongsoo Kang attempts to empirically identify external shocks that cause a systemic crisis and their propagation mechanisms in Korea’s financial system. He finds that measured macro aggregate shock series are crucial in explaining past systemic crises. Macro aggregate shocks do matter in the sense that they could multiply disturbances and bring about very persistent effects in the real economy. In contrast, the analysis shows that transitory shocks seem to have limited influences on financial markets.

Kang also argues that macro aggregate disturbances, rather than idiosyncratic factors, can greatly affect the behavior of individual economic agents such as firms and financial institutions. He surmises that the size of the identified shocks with long-run restrictions could well explain the depth of the 1997–98 financial crisis. Also, identifying shocks allows for comparisons between shocks that have occurred over a certain time period. This explanation is particularly well suited in the *ex post* sense. Analyzing corporate data, the author shows that credit channel effects seem rather weak in Korea in relation to shock amplification and propagation. More specifically, as the analysis indicates, capital gearing seems positively related to a firm’s borrowing costs. However, after considering other factors that could affect external financing costs, there was only a weak correlation between the firm’s financial structure and borrowing costs. The

author points out that macro variables, such as real GDP growth and short-term nominal interest rates, can better explain the variations in unit corporate borrowing costs.

As Kang observes, asset portfolios of Korean financial institutions have moved together in a similar fashion over time. And the assimilation of their asset portfolios has been strengthened. This implies that Korean financial institutions are also subject to the more common risk factors than to the idiosyncratic risks faced by nonfinancial firms. All of these results uniformly stress the importance of macro-aggregate risks in systemic crisis management. In this context, Kang concludes that policy makers and financial regulatory authorities need to place more attention on determining the characteristics of macro risk factors, whose quantity can be measured but whose nature remains unexplained.

Sung-In Jun's comments provide an overview of the paper and raise some questions. First, Jun questions whether using the structural vector auto-regression (VAR) is a good way to analyze financial crisis or systemic risk. Financial crisis or systemic risk is usually perceived as asymmetric, whereas VAR is a system of linear equations, hence symmetric. Also, Jun considers whether it is appropriate to use the default premium variable in a VAR setup. The problem is that it unduly shortens the estimation period and the measured number—calculated by subtracting riskless rates from the yields of investment grade corporate bonds—and does not live up to the concept of default premium that a typical firm faces in the capital market. Further, after the currency crisis of 1997, almost all corporate bonds were explicitly guaranteed either by banks or by some government-sponsored guarantee funds. In short, there is no default risk whatsoever as far as corporate defaults are concerned. Jun offers several suggestions to remedy these problems. The first is to substitute the default premium of short-term interest rate for the long rates. The second is to set up a VAR with more “standard” variables to extract permanent and temporary shocks and use the recovered shock series to analyze the correlation between shocks and default premiums. In terms of the microlevel data analysis, Jun points out the empirical relevance of the hypothesis—that the capital structure of a firm affects its borrowing rates—and therefore, other things should be considered, including an implicit guarantee among affiliates of Korea's conglomerates (*chaebol*) and the importance of collateral, a well-diversified portfolio, and the role of common shock.

The chapter on “Financial Supervision and Crisis Management: U.S. Experience and Lessons for Emerging Market Economies” was written jointly by James Barth, Lawrence Goldberg, Daniel Nolle, and Glenn Yago. As Barth points out, economic history records numerous instances of financial crises, and although a body of knowledge has been developed identifying causes and responses to financial crises, the hard lessons that emerge from them have from time to time had to be relearned. The authors

indicate that recently—over the past quarter of a century or so—there have been numerous incidences of financial crises in countries in all parts of the world and at all levels of income. In particular, since the late 1970s, there have been banking crises in two-thirds of the member countries of the International Monetary Fund.

The authors ask: What lessons for effective supervision and crisis management can be learned from previous experiences with financial crises, especially as those lessons might apply to emerging market economies in the midst of constructing modern financial systems? In addressing that question, the authors focus on the U.S. banking crisis of the late 1980s and early 1990s and its aftermath. The U.S. approach is to consider first the nature of banking prior to the crisis, anchoring that discussion in a historical look at changes in banking system structure and the passage of banking history legislation that had a major impact on the banking system.

Subsequent to the 1980s and early 1990s crisis, the banking industry changed profoundly and rapidly, and so the second part of our task is to delineate the nature of those changes, especially in comparison to the pre-crisis character of the U.S. banking system. In particular, the paper notes the decline in the role of banks in firms' external financing and the rise in noninterest-generating activities; the blurring of distinctions or "functional silos" between banks and other depository institutions and between banking companies and other financial intermediaries; the growing complexity of banking organizations, both in a corporate hierarchy sense and with respect to the range of activities in which they can engage; and the more intense globalization of banking.

In his comments, Hong-Bum Kim praises the paper's well-balanced and concise overview of the U.S. banking sector, which is described as the serial process of regulation, circumvention of regulation (financial innovation), deregulation, and sometimes reregulation. The paper also provides a general perspective on the evolution of U.S. banking, as well as a focus on the S&L crisis. Further, the paper highlights current trends and developments in the U.S. banking industry since the early 1990s, such as globalization and technological innovation. Kim agrees with the fundamental principles of the regulatory and policy lessons offered by the authors but raises some questions in terms of their application to emerging countries. The paper suggests the following lessons: First, "Be careful in limiting the activities of depository institutions." Second, "Do not sweep problems under the rug; let market discipline work without interference." And third, "Focus regulation on financial functions, not financial institutions."

For the first lesson, Kim refers to the S&L crisis and argues that it is difficult to control the activities of financial institutions, depending on specific features of a country—historical evolution, political and cultural traditions, and so on. Kim cites the difficulty associated with allowing banks to own nonfinancial firms. The second lesson, although absolutely correct

in theory per se, becomes hard to follow in practice, since systemic concerns, which are often politically motivated, will come to the fore—especially in emerging market economies. For the third lesson, as the activities of a financial institution become more diversified, traditional distinctions between financial institutions become less meaningful. Therefore, if regulation is based on institutions (or sector) in this circumstance, then competitive distortions and regulatory arbitrage will result. Kim contends that there is a need to focus regulation on financial functions and that prudential regulation, by nature, should not focus on financial functions alone. In concluding his comments, Kim emphasizes the substantive nature of the lessons on financial regulation. Emerging market economies may also need lessons on institutional structure of financial regulation in which regulatory substance, incorporated in legislation and policy, will be put into practice by regulators. Hence Kim argues that institutional structure may be equally if not more important in countries where institutional distortions are huge enough to prevent good regulatory policy from achieving objectives of regulation.

Chung Lee comments specifically on the three lessons drawn for emerging market economies, based on the U.S. experience. As the authors point out, laws and regulations are often created in reaction to actual or anticipated problems, and they may be quite adequate in preventing the recurrence of similar crises under the same social and technological conditions. But Lee argues that technologies never remain constant, that market forces (which encapsulate new technologies) change as well, and therefore that the laws and regulations eventually become inadequate to prevent a new crisis. The geographical banking restriction in the United States offers a case in point. Changes in technology and the geographical notion of community made the restriction too costly for society and generated political support for change.

Though Lee has no reservations about the first lesson, he points out the difficulty of determining what constitutes *overly* restrictive laws and regulations and determining whether they were or were not overly restrictive before a crisis. Most bank regulations have been reactive to actual or perceived banking problems. The question is thus how to make laws and regulations that are proactive and not merely reactive, especially when financial markets are dynamic and not static. Again, though the second lesson is a good idea in principle, it may be difficult to implement. Referring to the S&L crisis, Lee argues that knowing how a market will react to a crisis is nearly impossible. Hence, whether regulatory forbearance is too costly or not is easier to judge after the fact than before. On the third lesson, Lee agrees that the design of regulation of banks should be part of the design of an overall financial system, but he questions its practicality in emerging market economies, where banks are still the dominant financial intermediaries. In concluding, Lee agrees that to achieve a safe and stable

market-based financial system, a country needs to have institutional pre-conditions in place. But emerging market economies must determine their appropriateness, considering the difficulties in implementing them.

### Conclusion

In concluding the conference, the participants discussed some of the major findings and policy implications of regulatory reforms in the age of financial consolidation. The conference participants surmised that financial consolidation would continue, if not accelerate, so countries need to keep pace by modernizing their financial regulation structures. As the participants pointed out, although there are global underlying trends of financial consolidation, each individual country must take a path to financial regulatory modernization that *best fits its economic, social, and political environment*. With this in mind, the participants were able to draw out several key policy lessons for financial regulation.

First, for good regulation, the participants emphasized the importance of independence of regulatory authorities from political and government influence. This requires clearly defining the duties and functions of regulatory bodies. Only then can regulatory bodies be more accountable in terms of their jobs. At the same time, institutional mechanisms need to be in place to maintain checks and balances among regulatory bodies, as well as to allow them to communicate and cooperate with each other.

Second, financial regulation can contribute to mitigate herd behavior, which poses a serious problem for emerging market economies, such as enhancing information transparency, strengthening disclosure rules, and establishing liquidity regulations for financial institutions.

Third, in terms of regulatory reform, the participants emphasized the importance of informing and educating the public to enhance their financial awareness and capability, especially in emerging market economies where the level of financial sophistication among the public is often low.

Fourth, in terms of regulatory reform, the participants accentuated the importance of substance rather than form. Hence, regulatory systems cannot function well unless accompanied by proper regulation and enforcement.

Fifth, when a country transplants formal institutions such as statutes and regulations from other countries, it can succeed only if those formal institutions are compatible with the country's own informal institutions. Informal institutions include the way of thinking and the behavioral and societal norms that are deeply rooted in the country and are neither easily nor quickly changed.

Lastly, the participants emphasized the importance of recruiting and retaining a highly qualified workforce for the regulatory authorities. Some suggestions included offering work incentives, such as top training programs and flexible work conditions.





## **Part I**

# **Legal Reforms of Financial Regulations: International Experiences**

## **Part I-1**

# **Advanced Countries**

# 1. Legal Reforms of Financial Regulations: Case of the United Kingdom

Michael Foot

## Historical Perspective

Formal regulation of financial institutions came relatively late to the United Kingdom (UK), with the exception of insurance, which was regulated by statute from 1870 onward.

Thus banks, which have for a long time played a dominant role in the financial services sector in the UK, were not supervised under statute until 1979. Before that, what banking supervision there was had grown out of a desire by the Bank of England (founded in 1694 but nationalized as the central bank only in 1946) to protect its own balance sheet. Even when the bank accepted that it had national—as well as its own economic—interests to protect, the emphasis was very much on protection of the stability of the system rather than on the safety and soundness of any single bank.

It is worth my explaining briefly how the bank's position developed over time. From its earliest operations, the bank had bought bills of exchange before their maturity—bills that had been accepted (and therefore carried the acceptor's guarantee) by leading commercial banks in London. The bank had consequently come to provide a large amount of liquidity in the London markets. Any tensions in the UK banking system—for example, if one or more of the main banks faced a liquidity or capital crisis—thus provided a direct threat to the Bank of England's own balance sheet. The failure of a bank would very likely leave the Bank of England holding bills accepted by that bank and, potentially, with a loss.

Typically, at such times, there would also be a general loss of confidence in the UK and consequently a flow of money and gold out of London. This too potentially affected the bank, because it was a major holder of gold. The traditional response by the bank to any outflow of gold was to raise interest rates. But this carried risks to the bank's own interests, because a rise in rates could undermine the financial health of those who had to meet the bills of exchange when they matured.

The Bank of England by the late nineteenth century therefore came to realize that it needed to operate an active interest rate policy and monitor the financial health of the counterparties that it dealt with (the forerunner of banking supervision).

It also came to realize that its own liabilities were regarded by others as of unquestioned value and that, in an emergency, its own liabilities could be used to calm a crisis. This lender of last resort (LOLR) role, as it

became known, was described by Walter Bagehot in the 1870s and had in fact been used as early as the South Sea Bubble Crisis of 1720. But, on the first occasion when the bank consciously operated in this way (the Barings Crisis of 1892), it was done by the bank advancing loans to other banks, secured on assets that would not have easily been marketable in a crisis. That LOLR function is still with the Bank of England today; the last time it was used was to calm a crisis among some smaller UK banks in 1991–92.<sup>1</sup> The importance of not disturbing such a long-running and successful tool of the authorities played an important part in the formation of the structure for the new single regulator in the UK, as we shall see later.

A banking crisis in the UK in the early 1970s led finally to a formal, statute-backed regime of banking regulation being introduced in 1979. It was to be operated by the Bank of England. Between then and 1998, when responsibility moved to a new body (the Financial Services Authority; see below), the human and cash resources devoted to banking regulation increased many times over. This was the period—domestically and internationally (with, notably, the introduction of what we now know as Basel 1 in the mid-1980s)—when the strands of modern banking regulation were built up.

Other formal statute-backed regulation in the UK (banking and insurance apart) came in only with the passage of new legislation in 1986 (the Financial Services Act of 1986). This produced a bewildering variety of different regulators—basically one each for (a) securities, (b) personal investments, and (c) asset management. These were essentially self-regulatory bodies, with boards that contained practitioners and public interest members who operated within a broad statutory framework that was supervised by yet another regulator, the Securities and Investments Board.

There are two other important aspects of the UK financial sector that I should also touch briefly upon by way of background. First, there was never in the UK any prohibition—such as Glass-Steagall in the United States or Article 65 in Japan—on groups having banks, securities, and insurance or other financial intermediaries in the same group structure. Increasingly, therefore, banks started to own securities firms and insurance operations and vice versa. This, as we shall see below, was one important factor supporting the eventual creation of a single financial regulator.

Second, the UK market had long been open to new competition from home and abroad and to the relatively free transfer of ownership of financial institutions in response to normal merger and acquisition behavior. This meant that, particularly from the 1950s onward, the London market came increasingly to be dominated by foreign-owned entities. Some of the U.S.-owned firms came to London originally because of restrictions imposed upon their business in the United State; but they liked the environment and stayed to expand even when the original restrictions were lifted. Other foreign firms found London an ideal place from which to run

much of their international business. Frequently (particularly in securities and asset management) these firms bought UK entities to help them expand. By the mid-1990s, in the domestic markets, only in retail banking were UK-owned firms dominant.

## **Labour Government Creates Single Financial Regulator**

The new Labour government that came to power in 1997 was very different from its predecessors. The party had been out of office for eighteen years, during which time it determined to avoid the mistakes of past Labour governments. (These governments typically had been mistrusted by financial markets, and their periods in office had been characterized by regular foreign exchange and other economic crises, notably in 1966 and 1976.) One of the new government's first actions was therefore to make the Bank of England solely responsible for the operation of monetary policy, in that way hoping to reassure financial markets about the stability and independence of UK monetary policy.

The new chancellor, Gordon Brown, apparently also felt strongly that an official body functioned best if it had just one key task and could thus reduce or avoid possible conflicts of interest. Now, it has often been argued that a central bank with authority over both monetary policy and banking supervision has exactly such a potential conflict. The usual case cited is where a rise in interest rates is needed to reduce inflationary pressures but where the banking regulator is afraid that an interest rate rise will lead to bank failures.<sup>2</sup> Certainly this concern was cited at the time as a factor that led to the government announcing the creation of the Financial Services Authority (FSA) some three weeks after the Bank of England was given monetary independence.

Perhaps the most important single factor in the decision, though, was the point already mentioned—namely that the barriers were breaking down between the traditional areas of banking, securities, and insurance. This had been very clearly demonstrated in the Barings crisis of 1995. Here, the parent bank (regulated by the Bank of England) was brought down by fraud and system failures in the Singapore operations of its securities subsidiary (itself regulated in the UK by the separate Securities and Futures Authority [SFA]). At risk immediately also was the asset management arm, regulated in the UK by the Investment Management Regulatory Organization (IMRO). The interconnection of business through the group and the potential loss of confidence of outside creditors and customers were such that, as soon as the bank was in trouble, the whole group was threatened with failure. There could be no “ring-fencing” or selling off of parts of the group because of their interdependence. There had to be a rescue bid for the whole group (as eventually there was from the Dutch bank ING) or the liquidator would have had to wind up the various businesses

in order to establish the “fair” value of the various cross-claims within the group.

Among the larger banks by 1997, it was common for the group to have substantial insurance and other nonbanking operations, often as subsidiaries of the bank. In turn, several insurance firms had begun to create banking subsidiaries to fight back. In short, the UK financial services market was well on the way to being dominated by financial conglomerates, whose main domestic regulator (which could be the Bank of England, the Department of Trade and Industry, or—less likely—the SFA) was really the result in part of historical accident, depending upon which industry the dominant part of the group had come from.

This breakdown of the traditional barriers meant that regulatory cooperation within the UK was becoming increasingly important. But, with so many regulators, each in their own building and with their own operating techniques, this was proving difficult to ensure. Indeed, the Board of Banking Supervision inquiry into the failure of Barings commented adversely on the lack of coordination between the Bank of England and the SFA in their respective regulation of Barings.

The need for adequate regulatory cooperation was also felt very keenly in *cross-border* regulation. As noted earlier, the UK was home to a huge number of branches and subsidiaries of foreign-owned financial operations; while UK firms, especially banks, operated all around the world. This meant the need for ever-growing coordination efforts with overseas regulators, which in turn made increasing demands on the time and resources of each of the UK regulators.

It was also becoming apparent that the rapid financial product innovation (which for some years had been creating increasingly complex financial products that defied traditional labeling) was going to continue. In the case of one bank that failed in 1994, this led for example to a dispute between two of the five compensation schemes then in existence as to whether a particular liability of the bank was a bank deposit or an investment. The answer mattered, because it determined which of the two schemes should pay any compensation that was due and the amount of compensation that was payable.

There were also increasingly frequent complaints of *regulatory inconsistency*. One illustration regularly quoted was that if a bank and an insurance company bid against each other to buy another insurance company, the insurance bidder would typically win. This was because the insurance regulator had less stringent capital requirements than did the banking regulator and so the insurance bidder could “afford” to pay more. Also, although the details were not widely understood, it was obvious to any observer that the banking and insurance regulators in the UK differed markedly in their handling of issues such as whether (and if so how) to consolidate all the operations of a financial group.

Finally, there were increasingly obvious *economies of scale* and *clarity of operation* that might be gained from the creation of a single regulator. To take just one example, there were in 1997 eight separate complaints schemes and five separate compensation schemes in the financial sector. Consumers were often confused as to which should deal with their complaint or claim. Regulatory efforts were duplicated. One of the earliest decisions taken, once the FSA had been announced, was the early creation of just one compensation scheme and just one complaints scheme—each to be a subsidiary of the new FSA.

### **How the New Body Was Created**

The creation of the single regulator was announced at the end of May 1997. The new body did not have a name (it was referred to in its early months as “NewCo”). It had essentially only one known future employee in that period, its first executive chairman, Howard Davies. He was appointed as head of the Securities and Investment Board (SIB), which the government made clear was to be transformed into the FSA. Howard had previously had a wide-ranging career in the public and private sectors, including a spell as head of the UK Audit Commission. From late 1995, he had been deputy governor of the Bank of England so had some immediate knowledge of current banking supervision, yet he was not associated with the system of regulation then being operated. This background made him unusually well suited to take on such an innovative role.

Under Howard’s guidance, key staff were brought together from each of the existing agencies. They were asked to create a blueprint for the new organization and to work out the legal route that could best be followed to create it. They were also asked what early steps we could take, while new legislation was being prepared and passed through Parliament, to start moving toward the eventual goal of a fully unified regulator.

This last point became particularly important when it became apparent that the legislation would in fact take a minimum of two years. One idea then floated was that there could be some “half-way house” on the road to a single regulator (such as an early merger between the banking supervisors and the SIB). This would be followed by the rest when new legislation had been put through Parliament. However, the staff in the various separate regulators made clear that, now the decision had been taken, they wished to press ahead together and that a half-way house was not worth exploring further.

The legal basis on which the transition period was established was a slightly odd and typically British one. The simple part was that a limited amount of new legislation was required to move the banking supervisors from the Bank of England to the SIB and then rename the SIB as the FSA. This was done in time for the new body to begin operation on June 1, 1998.

But it was clearly going to take much longer to make the legal changes to add in the other existing regulators. It was thus eventually decided that each of these bodies would have to stay in legal existence, with its current governance arrangements, for several years. Yet the government and the new executive of the FSA did not want to postpone all changes during this period. What was needed was a way of permitting change ahead of the new legislation.

The solution devised required a good deal of mutual trust among those involved. In essence, the staff of each existing organization were seconded to the FSA. The FSA in turn concluded a series of service-level agreements with each existing organization. The FSA would deliver the organization's required regulatory functions and would use the existing staff and the governing structures of the old bodies to achieve this.

Thus, to take a specific example, almost all of the staff of the SFA were transferred to the FSA on June 1, 1998. The rules these staff enforced in relation to the securities and futures industries remained those of the SFA. Likewise, changes to these rules, new authorizations, and disciplinary action against existing firms all had to be approved by the SFA Board, which during this period remained a mixture of practitioners and public-interest members, as it had since its creation in 1988. But all the staff doing this work were employed by the FSA under a service-level agreement reached with the SFA.

The process required the active support of all the governing bodies concerned and also of some 2,000 staff. Among the latter there were, of course, departures, as not everyone wished to join the new body. But when over 2,000 existing staff were invited to sign new contracts of employment—often with significantly different terms from the ones they had been used to—the number of refusals to accept the new terms (the alternative being to stay on the old) was actually very small.<sup>3</sup>

Amazingly, over the next three and a half years before the new legislation to give the FSA full powers in its own right (which finally came into effect on December 1, 2001), there was no serious legal or other challenge to these arrangements, even from practitioners disciplined under the arrangements or refused licenses.

Additionally, as the legislative process moved slowly forward (and in the end the whole process took some two years more than had been forecast initially), the governing bodies of the SFA, IMRO, and others ceded more and more delegated authority to the FSA. This made it possible for the FSA management to make further progress toward eventual integration during the transition.

For example, quite early in the process, the statutory obligations that would eventually be laid upon the FSA by the new act were already fairly clear, as were the requirements (generally known as the “principles of good regulation”) to promote innovation, competition, and the like. This



meant, for example, that the FSA could start to spend modest amounts of money on improving public awareness of financial services, as this was going to be an explicit objective under the new act and as it was obviously going to take many years to achieve the desired improvement in public understanding.

The imaginative approach to the transition period also meant that the FSA executive could take over responsibility for some 2,000 staff in eight offices scattered around London and, within seven months of opening, could start realizing a key objective of bringing them all together into one building.<sup>4</sup> This had been planned from the outset, to help overcome the inevitably large differences of regulatory approach that were evident among the various existing bodies. We made very clear to all staff from the beginning that the FSA was not to be a clone of any of the predecessor bodies. Instead it was to be the synthesis of the best from all the previous bodies; and the loyalty of the staff was to be to their new organization, not their old.

With the same reasoning (i.e., to start creating a common culture), the FSA executive began to encourage staff to move between the various departments of the new regulator, to help with the cross-fertilization of ideas between the different areas of regulation. This process was very cautious at first and relied solely upon volunteers—no one was forced to move.

It was helped by the fact that there was no shortage of challenging tasks for people willing to move in this way. Policy work—preparing for the full single regulator—had to be in full flow from day one of the FSA; and involvement here offered an inside track to the new thinking and approach that the FSA was going to try and introduce (see below). Line supervision of individual firms changed less rapidly, though the FSA did all it could in this interim period to prepare for changes that it knew it wished to introduce eventually across the whole organization. For example, various experiments were conducted in the supervision of large financial service groups. FSA management was convinced that more attention needed to be given to assessing the strengths and weaknesses of a group as a whole and less attention to individual legal entities.

On the downside, it was inevitable that this transitional arrangement would at the least slow down some of the reforms and would perpetuate inconsistencies between the previous regulators. To take just one example of these inconsistencies, one of the previous regulators, the Building Societies Commission, had a policy that all the 80 or so thrifts that it regulated were physically visited by its staff every six months. An insurance company with a balance sheet perhaps 100 times greater than a small building society was also visited by *its* predecessor regulator, but perhaps only once every three years. And yet, in terms of risk, a number of insurance companies had failed in previous years, while the building society movement

had not seen any depositor loss since 1920! Here was a classic case where the consistent application of risk priorities argued for paying more regulatory attention to insurance companies and less to building societies. But this flexibility really became fully possible only at the end of 2001, when full responsibility passed to the FSA. Before that, the commissioners who were responsible under the old structure were not willing, under the delegated authority described earlier, to allow the FSA to make this shift. As the commissioners ultimately had responsibility if a thrift failed during this transition period, their wishes had to be respected.

It was also difficult (and for similar reasons) in this transition period to consider major changes in the way that powers had been exercised by the previous regulators. If—as in the case of insurance regulation—particular legal powers had existed for over twenty years but had either not been used or had been narrowly interpreted, it was clearly going to be difficult—and open to the risk of serious legal challenge—for the new executive to change that interpretation significantly. Instead this executive concentrated on building for the new regime and consulting as to where it would make changes when the new act came into force.

### Increase in FSA's Powers

From the outset, the government had always made it clear that it reserved the right to extend the remit of the FSA. Obvious omissions at the outset were the creation, monitoring, and enforcement of the following:

a. The *listing rules* for company prospectuses. Until 2000, when the FSA took it over, this was the responsibility of the London Stock Exchange. But in the United States, this responsibility has been a key feature of the work of the Securities and Exchange Commission (SEC), and it was therefore from the outset expected that the task would pass to the FSA in due course.

b. *Accounting standards*. Again, of course, as we have seen post-Enron and more recently with Shell, the SEC exercises considerable responsibility for the enforcement of standards in this area in the United States.

c. The granting of *consumer credit licenses*. There are several hundred thousand of these in the UK; their issuance and supervision is currently the responsibility of the Office of Fair Trading.

d. Regulation of the operation of *insurance and mortgage brokers*, which traditionally were self-regulated by their industries.

e. Regulation of *corporate and group pension funds*. In recent years, these have been regulated for the first time by a government-created body known as the Occupational Pension Review Authority.

As it turns out, the government has passed (a) and (d) of the above list to the FSA since its foundation in 1998. The first, (a), was transferred in 2000, after the London Stock Exchange (LSE) had abandoned mutual sta-

tus and had become a publicly quoted company. This change of status by the LSE created significant potential conflicts of interest for it—without the change, the LSE would have been responsible for monitoring market abuse in its own shares. These potential conflicts were dealt with by transferring the staff (some 80 people) and the powers quickly to the FSA.

The fourth item in the list above, the regulation of insurance and mortgage brokers, was given to the FSA following the passage of a European Union Directive that required the creation of a statutory regime in this area. As there may be perhaps 20,000 firms that need authorization (the FSA currently regulates only some 10,000 in all the industries it currently covers), this is potentially a large new commitment, which becomes fully effective from early 2005.

There is at present no move by the UK government to transfer any of the other issues noted above and, indeed, a self-regulatory body (the Financial Reporting Council) has only recently been revamped and expanded to take on a more proactive role in the monitoring and enforcement of accounting standards.

So far as the FSA management is concerned, I think their primary goal is to ensure that they can do properly what they were initially tasked to do, before even considering the possible attractions of further extensions of their remit. A case can be made for the regulation by the FSA of each of the industries considered above. But there are offsetting—and probably obvious—arguments about extending still further, at least in the short term, what is already an immensely demanding and complex remit.

## The Key Legal and Operational Features of the FSA

Much of the rest of this paper will describe the main legal and managerial challenges that have been apparent in the first six years of the FSA's life—in particular, in the two and a half years in which it has had full powers. However, this discussion needs first an explanation of six features of the FSA's arrangements that have had an important impact on how it has developed. These features are

- The *statutory objectives* the FSA has been given
- The *principles of good regulation* that are also in statute
- The *governance structure* that it has
- Its *accountability* to key stakeholders
- The way in which it is *financed*
- Its operational relations with the Bank of England and the Treasury

With respect to the first, it is common in many countries for statutes to state the purpose for which a body is created. It was traditionally less common in the UK and, for example, was not done in the creation of the banking supervision regime that predated the FSA. The act of 1979 was in fact very vague about the purposes of banking supervision. It was only in

1997, just before the announcement of the single regulator, that the bank actually published for the first time a detailed outline of its supervisory aims.

The Financial Services and Markets Act 2000, which gave the FSA its full powers, conforms more naturally with modern good practice. The following four objectives are set out:

1. Maintaining confidence in the financial system
2. Promoting public understanding of the financial system
3. Protecting consumers
4. Reducing financial crime

It should be noted that nothing is said in the statute about the weight to be given to each nor very much about how they should be interpreted. It follows that the FSA has both to explain on an ongoing basis how *it* interprets these objectives in specific areas, but also how it is going to balance possibly conflicting interests between objectives. As a result, for example, the FSA now presents budget plans for the year ahead in a form that shows all its projected work and expenditure grouped under headings clearly related to the objectives. FSA staff are regularly reminded to be clear which objective is being targeted in any particular plan of action.

Even so, as we shall see later, there remains considerable uncertainty over what politicians and the public understand about the meaning of the objective of “maintaining public confidence.” The FSA has made clear from the outset that this does not and cannot mean that all deposits, investments, or insurance policies are “safe” or free from the risk of failure. But such a message is not readily heard by a depositor, investor, or policyholder who has lost money!

The second important feature, the *principles of good regulation*, is I believe rather less common in statute law around the world. The purpose of the principles is to identify the factors that the FSA should take into account when making rules and policy and when giving advice and guidance. There are seven in all, and each has had a significant impact on the way in which the FSA has developed.

Thus, for example, the FSA has to use its resources (1) in an efficient and economical manner and (2) to observe the principle that the costs of the FSA’s action should be proportionate to the benefits that are expected from the action. This second requirement has led us into conducting cost-benefit analysis in areas where I doubt this has ever been attempted before.

A third important principle is that senior management of authorized firms has the responsibility to manage, the reasoning being that there are strict limits as to what the regulator can or should take responsibility for. How (indeed whether) one can convince the public of this is another subject.

The fourth and fifth principles instruct the FSA to facilitate competition and innovation. This is quite a significant burden to place on regulators. Competition makes it more likely that weaker/less well run firms will fail. Innovation produces new products which—if they fail—may bring down the innovator (as has happened, fortunately mostly outside the financial sector, with dot.com operations). And equally, if innovation *does* succeed dramatically, failures are likely among the now exposed traditional players.

The two last principles of good regulation instruct the FSA to minimize the adverse effects on competition of its own operations and rules and, finally, to have regard for the “desirability of maintaining the competitive position of the UK.” London is, of course, in many wholesale global markets a leading—often *the* leading—world market. This principle therefore has always attracted almost total support.

The third topic identified, the *governance* of the FSA, has been a hotly debated issue ever since its creation and, I think, raises important general issues.

When it was set up, the FSA had an executive chairman (Sir Howard Davies) and three managing directors, of whom I was one. This structure led to two main lines of debate. The first was over whether the range of accountability provisions I shall outline shortly were enough to offset the danger some saw in the concentration of power in the hands of the executive—specifically in the hands of the executive chairman. On Sir Howard’s departure in 2003, the post of executive chair was split into two, a chair and a CEO—but of course, by then the FSA was already established and with significantly wider powers than at its outset.

A second line of lively debate was whether the SEC style of having commissioners was preferable to that of a top executive team of the kind that was in fact chosen. The commissioner structure is not unknown in the UK and, I think, this was a debate that could have gone either way in 1998–99. One great advantage of the commissioner system is that it provides checks and balances at the top of an organization; the commissioners are separate from the senior staff. Its great weakness is the reverse side of that coin—namely that the people with decision-making power cannot take responsibility for creating and driving forward a culture for the organization. So new and complex was the FSA and so important was it that this new culture was created (to help get rid of the differing attitudes toward supervision that existed among the previous organizations) that, personally, I am sure the choice actually made was the right one.

The *governance* and *accountability* provisions inevitably became closely intertwined; accountability will always be of particular concern if governance *could* result in the concentration of power in a few hands. Perhaps the most common single accountability issue expressed while the legislation was passing through Parliament was that the governance structure

meant that the FSA would be “prosecutor, judge, jury, and executioner” in its conduct of disciplinary cases against firms or individuals. This was never the intention, but the fear of it explains the wide range of protections that were reflected in the final act.

Political accountability was provided for in a number of ways. The FSA has to make an Annual Report to Parliament on its stewardship (on which it is questioned). This requires the FSA, among other things, to explain how it thinks it is meeting the statutory objectives.

The board and chair of the FSA are appointed (and removable) by the Treasury. Given British history, the Treasury would never use this weapon except as an absolutely last resort, but it is an important backstop. Otherwise, the FSA is generally independent from government, though the latter has the power to intervene if necessary to ensure that the UK meets its international obligations and that the FSA does not unnecessarily harm competition.

For the financial practitioners, their main concerns over the accountability of the FSA were met by several of the FSA Board’s nonexecutive directors being practitioners and by the creation on a statutory basis of a Practitioners’ Panel with rights of enquiry and publicity.<sup>5</sup> In addition, the FSA committed to an extremely open consultation process, covering not only all proposed rule changes but also, in considerable detail, the proposed revenue and expenditure of the FSA. An independent complaints commissioner was also set up to hear complaints against the FSA itself.

Perhaps most importantly, a two-tier enforcement process was created for all discipline matters. In the first stage, the case is heard by a panel of public interest and practitioner members and then, if the company or individual accused is still dissatisfied, the case is passed to an independent tribunal to try it afresh.

To help mitigate consumer and public interest concerns over undue power of the FSA, provision was made for the FSA Board to include a wide range of public-interest members. (At the time of writing, the FSA Board has a chairman, four executives, and eleven nonexecutives.) The Consumer Panel is a further protection and has resources provided to it by the FSA because, unlike the Practitioners’ Panel, its members cannot be expected to marshal significant analytical or research resources of their own. A final protection is provided by the openness of the consultation process and the fact that every significant proposed rule change (other than those required by an EU directive) has to be justified by reference to a formal cost-benefit analysis, the calculation of which is itself open to comment.

This consultation process has at times exhausted many of those with views to contribute (the FSA produced 200 consultation papers in its first five and a half years of operation). But, on all sides in the UK, it has been held up as a model to be followed more widely, especially in the European

Union; and both practitioners and consumer groups recognize publicly that they have seen important changes in policy resulting from their comments.

The fifth important determinant of how the FSA has operated in practice has been its financing. The predecessor bodies were financed in a variety of ways. Some levied fees from their industry. The banking regulators were financed out of the proceeds of a noninterest-bearing deposit held by banks with the Bank of England; this went to pay for a range of services, including banking regulation. Most of the predecessors' approaches involved no direct government money.

The FSA, from the outset, has received no government money but instead—and to illustrate its independence from government—has relied solely upon fees paid by industry. There is public consultation each year with industry as to the detail of the budget proposed and how the money is to be raised. Overall, there has been remarkably little controversy over either the quantum or methods of allocating the burden across sectors. No doubt the lack of controversy has been helped by the fact that, in its first six years of operation, the FSA's fees in aggregate (after allowing for increases in the FSA's duties over the years) have risen no faster than price inflation, despite the fact that for much of this period salary increases in the financial sector have been well above the rate of inflation. This has been made possible by the successful pursuit of the economies of scale that were forecast when the creation of the FSA took place.

One common objective for practitioners throughout the period has been the concept of “no cross-subsidization” between industries. There are about 20 different fee blocs in all, so that, for example, banks pay only for the direct and overhead costs of banking regulation, insurance companies for insurance regulation, and so on. Over time, this can mean and has meant that the balance of fees between sectors can change significantly.

Another important fee issue, which different industries have agreed to resolve differently, has been the basis on which the fees are levied. The basis for banks, as in the Bank of England's day, is set as  $\text{£}X$  per  $\text{£}1$  million of deposits—that is, it is a balance sheet measure.<sup>6</sup> For insurance companies, the main fee driver has been the volume of new premium income, though this is now under review; a large number of life insurance companies have closed to new business, so that their premium income has fallen sharply—but the costs of regulating them remain high.

What has not been attempted, except in a limited way for recognized investment exchanges and for regulatory work specifically related to a “special event” (such as a takeover), has been to relate charges to the amount of regulatory work actually done. In part this is because the detailed record keeping that would be involved would be a substantial extra cost in its own right. But it also reflects the fact that—save in a case such as a takeover—much regulation may benefit the whole industry con-

cerned and not just the firms involved. In contrast, a takeover will typically be of most concern to the firms immediately involved and will already involve large professional fees anyway. Companies in such circumstances are typically willing to pay for the special regulatory work needed to evaluate a merger rapidly.

The final important feature I wish to discuss is the nature of the relationship between the FSA, the central bank, and the Treasury. As I noted earlier, there was undoubtedly concern back in 1997 that the creation of a separate regulator would damage the Bank of England's ability to assist in dealing with a financial crisis. It was in particular argued that the creation of the FSA would divorce the central bank from the regulatory information it would need to decide whether or not its lender of last resort (LOLR) arrangements were justified in a specific case.

This debate is not yet wholly resolved because, since the FSA was created, there has not yet been any threat to financial stability requiring the use of LOLR. But when the FSA was created, a great deal of thought was put into setting out clearly (a) the responsibilities of the Treasury, the central bank, and the regulator, and (b) the mechanism by which they should cooperate and exchange information.

The efforts that the authorities have made to ensure that the three institutions work together justifies a section of its own, as my own discussions with countries around the world suggests that this is an issue of great concern among those who are changing their regulatory arrangements.

### **The Tripartite Arrangements**

In October 1997, a memorandum of understanding (MOU) between the three parties was published (see appendix). Interestingly, there has been no suggestion from any of the three partners (or indeed more widely) that the MOU should be amended in any way. However, as noted above, we have not yet seen how it works in an actual crisis and there was a public exchange of letters between the Treasury and FSA in 2001, setting out in further detail the circumstances in which the FSA would inform the Treasury of developments.<sup>7</sup>

The MOU sets out the responsibilities of each party unambiguously. Each has clear accountability and each brings something quite distinct "to the party."

The Treasury is responsible for the overall institutional structure of regulation and for the legislation that governs it. But it has no operational responsibility for the actions of either the bank or the FSA. The Treasury is also the only shareholder of the Bank of England, meaning that any action by the latter that could give rise to public expenditure needs the assent of the Treasury.

The Bank of England for its part is made clearly responsible for the overall stability of the financial system. This is defined to include the sta-



bility of the monetary system, the robustness of the infrastructure of the financial (especially payments) system, the maintenance of a broad overview of the system, and the ability to conduct official financial operations, including LOLR.

The FSA, for its part, has clear and sole responsibility for (a) the authorization and supervision of the range of financial sector firms noted earlier; (b) the supervision of financial markets and of clearing and settlement systems (a responsibility that calls for close cooperation with the Bank of England); and (c) the conduct of operations in response to problem cases affecting firms, markets, and clearing and settlement systems, save those defined as falling to the bank.

Three key institutional arrangements underpin these arrangements. First, and perhaps most important, a Tripartite Standing Committee meets regularly, typically every month, to “discuss individual cases of significance and other developments relevant to financial stability.” On paper, the committee consists of the head of each of the three bodies. In practice, senior officials conduct the meetings and inform their superiors of the outcome. Each institution is free to call a meeting at any time and to raise any issue that concerns it. Meetings are typically attended by relatively few staff, with considerable continuity of attendance from year to year, which helps develop consistent approaches to potential problems. Minutes are agreed upon and circulated to the head of each organization.

The agendas for these meetings are never disclosed publicly. But I can say that the approach is proactive—that is, the committee considers on a regular basis the main potential threats, domestic and international, to UK financial stability. Over a typical year, the committee would review possible geographical risks, commodity and other key prices, possible sources of serious credit, market and interest rate risk, and the legal and operational risks associated with new products. Since 9/11, the committee has also taken a great deal of interest (some of which is in the public domain) in the preparedness of the key parts of the UK financial sector to deal with any terrorist or other physical threat to the operation of UK financial markets.

The second important institutional support for the arrangements is provided by cross-membership at senior level of the Bank of England and the FSA. The chairman of the FSA is a member as of right of the Court of the Bank of England, while the deputy governor for financial stability at the bank is a member as of right of the FSA Board.

Finally, the MOU makes clear the vital role to be played by the sharing of information, especially between the bank and the FSA. I have been struck, when visiting certain other countries to discuss regulatory change, that in some cases the central bank and the regulator concerned are manifestly unwilling to share such information. This is not a problem that we have faced.

To date, as I have noted above, this has all worked well. The International Monetary Fund (IMF) summarized their view as follows: “The UK financial stability framework is at the forefront internationally in many respects. Clearly a great deal of thought has gone into making the institutional structure work.”<sup>8</sup>

### **The Main Legal and Managerial Challenges of Creating the FSA**

Let me turn now to the main challenges that we have had to address and that have potential importance for other countries going down a similar route.

No one has ever, to my knowledge, put so many different organizations together at one time. And in contrast with, for example, the typical takeover or merger, there was no single dominant body within the predecessor organizations that was going to “come out on top” in the new FSA.

In part, this was a simple matter of arithmetic in that of the 2,000 or so staff on day one, no more than 450 came from any single predecessor. After the creation of the FSA, of course, staff turnover worked in the same direction. Partly because of an expansion of numbers and partly through high turnover when financial markets were strong in 1998–2000, just over half the staff of the FSA in 2003 had not worked for any of the previous regulators.

In part, it derived from the diversity of the new top management. Howard Davies and I indeed came from the Bank of England (though in his case he had been there only a couple of years). But the other initial managing directors came from the SFA and from IMRO, our first chief operating officer came from the private sector, and our first and second general counsels came from the SIB.

Most fundamentally, perhaps, it came from a promise made by the new senior team to all the staff that we would take the best features of the predecessor bodies and meld them into a new organization. To that end, for example, we created the new terms and contracts of employment described briefly earlier. The aim (roughly 98 percent achieved by the FSA’s first day of operation) was to get all staff onto the same new terms of employment.<sup>9</sup> Our financing, human resources, and information systems arrangements likewise quickly began to diverge from those of any of the previous organizations.

Of themselves, these changes were not enough. Our staff worked together in the same building (from January 1999 on), and we could start to move them around between departments. But the fact was that the various regulatory disciplines had grown up separately, had apparently different visions about key aspects of regulation, and were used to operating very different techniques of regulation.

Some were, for example, primarily concerned with prudential regulation and wanted to focus, with the new regulator, on how to harmonize

the very different global (and national!) prudential regimes for banking, securities, and insurance. Others were much more interested in conduct of business regulation, with little or no concern for prudential matters.

Similarly, some staff came from regimes that mainly regulated small and relatively simple firms. Even for the bigger firms in their industries, such regulators typically took relatively little interest in the groups of which the firms were part. The banking and securities regulators, in contrast, were used to dealing with very large, interrelated, and complex financial groups and were as a result accustomed to looking at the group on a consolidated basis and not just at the individual legal entities.

There were also significant differences in the regulatory approaches that different regulators were comfortable in using. The banking regulators had for some years sought to get a good understanding of the business model of the bigger banks and to form their own assessment of the quality of the senior management and the systems and controls in operation. There was a role (but much less say than in the United States) for on-site inspection. Other domestic regulators were much more interested in whether the firm was or was not abiding by the relevant rule book and, in some cases, were more enthusiastic users of tools such as inspection.

Finally, there were major differences of culture between those who saw it as a vital part of the regulator's job to ensure the survival of the firm being regulated and those who didn't. The bank and insurance regulators looked naturally for discreet remedial action in the event of problems, because the depositors or policyholders could be damaged heavily if the firm's problems became public knowledge. Others regulated industries where the failure of the firm posed little threat to the underlying customer (because the firm did not hold his money); this group was generally much more comfortable with formal and public discipline of firms and senior individuals who did not meet acceptable standards.

Finally, each regulator had typically been heavily influenced by the specific crises that they had faced in the previous ten years or so and by the international standards in their industry. The banking regulators had been greatly affected by the collapse of BCCI and a number of small UK banks in the early 1990s. IMRO had undergone something of an upheaval after the theft of pension funds from the Mirror Group under Robert Maxwell, PIA after the mis-selling of pension products to retail consumers, and so on.

The way forward, we quickly realized, was to cement a new culture and to tackle the huge range of regulatory issues we faced by creating a new "language" with which to describe, monitor, and mitigate risk. This was the genesis of what we now call "ARROW"—Advanced Regulatory Risk Operating Framework.

### Creating a New Language and Using It

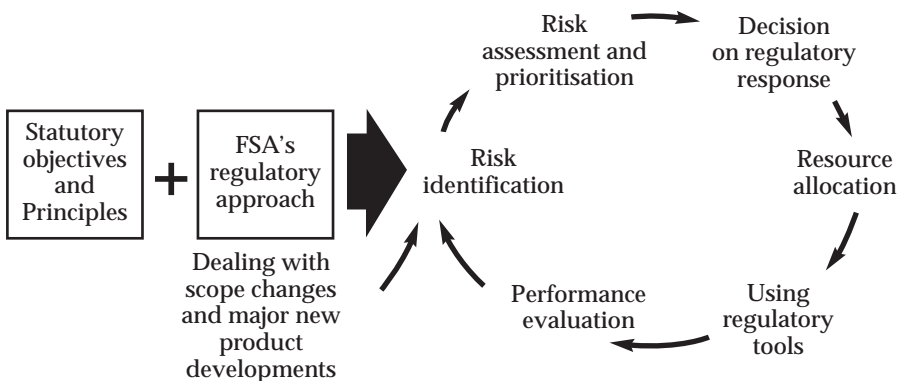
Every regulator faces the problem of a seemingly endless list of possible tasks and the lack of the signals (of profitability, etc.) that help a private sector firm to order its priorities. There is the additional complication that, when problems do strike, the regulator's behavior is analyzed by critics, with twenty-twenty hindsight. And against that standard, there is always more that could have been done and different regulatory priorities that could have been pursued.

As is quite common around the regulatory world, several of the predecessor bodies to the FSA in the UK had had a formal model to help assess risk and allocate resources.<sup>10</sup> The most fully developed had been produced by the Bank of England after the collapse of Barings, and another that had been created by the SFA. But none of these had the potential to cover the huge range of prudential and conduct of business issues or the flexibility to deal with individual firms and with industry-wide or sector-specific issues that a big single regulator would need.

The FSA announced early in 2000 that it was going to create a new model, and as the material has been written up fairly extensively, I am going to pick out only the highlights and describe them first in respect of the regulation of an individual firm.<sup>11</sup>

The analysis has two basic stages. The first is to identify the risks to the statutory objectives (RTOs). These RTOs derive from the statutory framework given to the FSA, and for individual large firms, for example, they are grouped into seven categories.<sup>12</sup> Some of these are *business risks* and some are *control risks*.

The second stage is to assess and prioritize these risks, which in turn means that the regulator has to know enough about the firm to evaluate



**Figure 1.1.** The FSA's operating framework

these risks within acceptable margins of error. (This is really possible only for larger firms; a quite different approach is needed for small firms.) The basic approach is illustrated in Figures 1.1 and 1.2.

Each risk element of the firm is scored against each RTO, and then the scores are aggregated to produce a risk score against each statutory objective. Scores at this level of aggregation are computed as high, medium high, medium low, or low rather than as straight numbers.

Consistency checks are then carried out, involving people who have not hitherto taken part in the assessment. Then a *risk mitigation program* (RMP) is developed for each firm. The various available regulatory tools are grouped into four basic types (monitoring, diagnostic, preventative, and remedial). Typically, a high-risk firm will be given an RMP that contains a significant use of preventative and/or remedial tools, such as requirements to raise new capital, make particular improvements in the management, or restructure the business.

I hope it can be readily seen that this approach can equally well be used to address issues, rather than firms, as these are capable of the same quantitative analysis. In this way, it is possible to address what otherwise might be seen as a major weakness—namely that for small firms, the regulator is most unlikely to find it economical to collect the data needed to estimate the probability of particular business or control risks. The resolution is to conduct so-called *thematic* pieces of analysis that span small and large firms and use sampling visits to the latter to draw inferences about the overall state of this sector.

It should also be evident that the process allows for a proactive approach—that is, considering and mitigating potential risks. The FSA in fact conducts a considerable amount of forward-looking macroeconomic

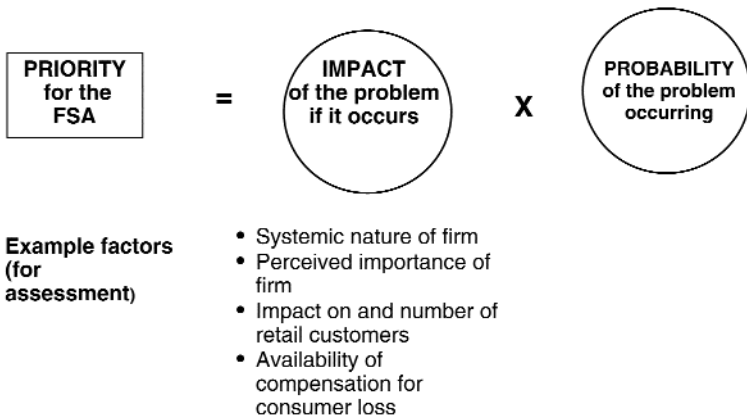


Figure 1.2. A risk-based supervisory approach

and other analytical work. Once a year, this is published in *The Financial Risk Outlook*. A recent edition noted that “our primary aim . . . is to raise awareness of the key risks to our objectives that are present in our operating environment, and to contribute to our objective of promoting public understanding of the financial system. We also hope that firms will find it to be a useful addition to their own risk management and planning. Furthermore, the analysis contained here helps put the actions we take, and the decisions we make, into context.”<sup>13</sup>

Trying to be proactive has been a distinguishing feature of the FSA from the outset. As I have described it in another context, the regulator can choose to be like the circus attendant who walks along behind the elephant in the parade, cleaning up after it. Or the regulator can seek to lead the elephant along paths where the occasional “accident” can be quickly and easily cleaned up. We considered from the outset that the view at the front of the elephant tends to be better!

### **Staffing and Financing an Effective Regulator**

Even the largest regulator in a country tends to look pretty small by comparison with the largest firms they have to regulate. For example, I am pretty sure that, if you aggregated the total annual information technology (IT) budgets of all the regulators in the world, it would amount to considerably less than the IT budget for any one large global bank. To take another example, the largest UK-owned groups regulated by the FSA employ well over 100,000 people worldwide; we have some 2,300 people to regulate all 10,500 firms we authorize!

These relatively few regulators also have to face what seems to be an ever-increasing complexity in the markets and products that they regulate. Evidence, if it is needed, can be swiftly gained by comparing the so-called Basel 1 Capital Accord of the mid-1980s with the draft Basel 2 Accord, scheduled to come into effect in 2007. The latter is a hugely bigger and more complex document than the former. And many of the risks discussed in the latter (such as operational risk) find little or no mention in the 1980s document.

All of this (and even using international cooperation to the full) means that the typical regulator regularly faces difficult staffing/resource decisions. On balance, the creation of the FSA has helped us answer these questions favorably.

Every regulator faces a difficult question over how much to spend. There are always additional statistics that could be obtained or analyzed, visits to make, or other checks to carry out that could marginally reduce risks. The question is how to decide which, if any, of this potentially huge list to undertake and, at least as importantly, how to defend in public the resulting decision.

The issue is complicated by the fact that what the regulator itself spends is not the economically important issue. What really matters is the total of what the regulator and the firms themselves spend to meet the regulator's rules plus the economic cost that may follow because competition or innovation has been restrained by the regulator. This last indirect cost can be particularly difficult to measure and is one that many regulators seem reluctant to consider at all.

It is also, of course, necessary to measure benefits as well as costs, because—if there are sufficient benefits—even a costly change in regulation may well be fully justified. Measuring benefits may not be easy. Most regulatory changes are made to reduce the future risk of failure of an institution or to reduce the risk of some conduct of business misdemeanor that will cause customer detriment. But one didn't know before the change exactly what was the risk of failure or detriment; and one can normally only guess within very wide margins how the proposed change will reduce the risk. Where we are talking about a substantial regime change (such as Basel 2, for example) and not a relatively modest move along an already well-defined curve, the problem of measuring potential benefits is at its most acute.

In such circumstances, the economist's normal answer—to use cost-benefit analysis (CBA)—is at best a blunt tool. But it is all we have and, even in these most difficult circumstances, it does give transparency to what can be estimated and what is assertion. Also, it allows those who will be affected to challenge the figuring and ask whether some different action (or even no action at all) might be preferable on economic grounds. That is why the UK's FSA has adopted the use of CBAs from the outset and tried to be very open about weaknesses in the analysis.

Another typical reaction by economists in such circumstances would be to “compare and contrast” the costs of regulation across countries and, though it is much more difficult, also to examine the relative success of regulators in different countries in achieving the goals they have been set.<sup>14</sup> There is, however, surprisingly little in the public domain about even the direct costs of different regulators, let alone the indirect costs they cause or the benefits their policies are supposed to lead to. The UK's FSA has been publishing for several years direct cost figures obtained from regulatory agencies around the world. But we have never managed to harmonize these numbers to take account of different wage costs, exchange rates, highly varied statutory obligations, and the very different nature and scale of financial services in the different countries. The figures are of little use.

We are left, I fear, with the conclusion that there is no reliable short-term measure of the efficiency of the regulator nor even of the efficacy of individual policies. In the year 2020, for example, it may be possible to look back—on the assumption that Basel 2 does indeed come into effect in the G-10 countries—and provide a reasoned analysis as to whether or not

(as some of its detractors claim) Basel 2 is damagingly procyclical. But it isn't possible now.

### **Financial Capability: The Long-Term Aim**

I would like to turn briefly to two other issues where being a single regulator has helped rather than hindered before offering some tentative and comparative conclusions that touch on Korea.

The first issue is the importance that I feel regulators should give to trying, over time, to reduce *their* role in protecting the financial system and to let market forces do as much of the job as possible. This is usually a view to which lip service is paid; but, after every unexpected financial debacle (Enron and Parmalat being two recent ones that come to mind), the outcry for more regulation usually drowns out those who ask for evidence that the new regulations will do more good than harm.

Nevertheless, I remain convinced that in the long run the market can and must do as much as possible of the regulator's job for itself. This in turn will be possible only if (a) adequate information is disclosed on which market participants can make up their own minds and (b) if those market participants have the competence to reach rational judgments.

There is no particular cause for self-congratulation (certainly not in the UK) in respect of either of these issues. The need for enhanced disclosure for professional counterparties is well set out by the Basel Committee in its proposals for Pillar 3 of the new Basel 2 proposals. And although some progress has been made in recent years, I still think that even the largest global financial institutions publish remarkably little that is of use to professional analysts or counterparties.

For retail consumers in many countries, the problem is more acute still. Levels of financial sophistication among the public are in many countries worryingly low. Certainly in the UK, surveys regularly show a widespread lack of understanding of simple financial concepts.<sup>15</sup> And yet, as in professional markets, low inflation and low yields have been encouraging financial intermediaries to create and sell highly complex products to retail consumers that appear to boost income or capital returns but which carry considerable risk in the process—for example, because returns are tied to foreign equity markets.

Around the world, and certainly in the UK, it is therefore not surprising that the regulator is often a staunch supporter of greater disclosure (and competence!) in professional and retail markets. In the UK, we have taken it one stage further in respect of the retail markets, with the creation—backed by the FSA—of a financial capability initiative. This will target specific groups right across the age spectrum, from schoolchildren to the elderly planning for retirement. It aims to make a step jump both in the ability of individuals to reach sound personal financial decisions and to improve the availability of materials to help them do so. We know it is



going to take many years to make a real difference. But it is the only way that we can see to end the current cycle of poorly informed consumers buying financial products that they don't understand or being too frightened to buy any at all.

Such an initiative has been made considerably easier by the creation of the FSA because of the economies of scale that were possible when we came together. We are also able now to look across the whole field of retail financial advice. Thus, for example, a consumer can already find on our web site independent generic (i.e., nonfirm-specific and nonproduct-specific) advice about a wide range of personal financial issues, from paying back short-term debt to taking out a personal pension. They can also access decision trees to help with some of their planning and evaluate performance of individual firms' products by looking at comparative tables. None of these *need* be provided by the regulator; they could be done by the private sector. But if they are not done well, we think we have little choice but to step in to deal with what is essentially a market failure.

## **The Future of Global Regulation**

The last general topic I would like to address is the benefit that I believe the FSA has derived in the field of international regulatory cooperation from its greater size and from its integrated nature.

The extent of international regulatory cooperation now probably comes as a surprise to many nonregulators; but it is less surprising when one remembers just how international our markets and the key players in them have become. The largest UK-based bank (HSBC), for example, operates in over 80 countries and sells somewhere in the world almost every banking, securities, and insurance product known to man. The FSA has to maintain relationships with some 200 regulators and exchanges outside the UK in respect of a group like HSBC.

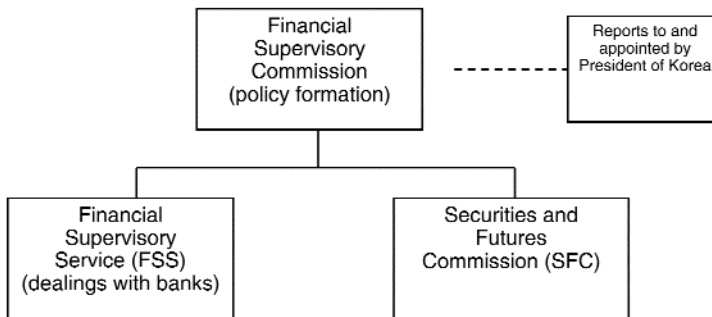
More generally, the FSA is a member of well over 150 international regulatory committees. It has MOUs with dozens of countries about how bilateral arrangements between the UK and the country concerned should work. Even ignoring the relationships required within the EU by the UK's membership, there is hardly an area of regulation within the UK that is not regularly touched—and sometimes profoundly changed—by international influence.

This is also true with the proliferation of codes of good practice that have increasing importance in international fora. There are now a dozen codes that the IMF takes into account in its assessments of members' regulatory structures, covering a huge range of issues from money-laundering and antiterrorist work of the Financial Action Task Force to codes on various aspects of corporate governance.

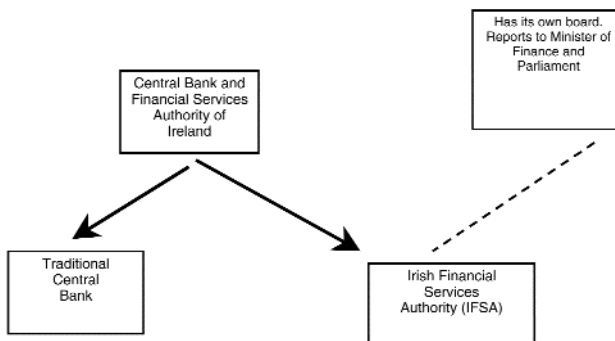
While all this is necessary, it does impose huge burdens upon national regulators. We certainly in the UK have found that unification of our domestic regulatory structure has enabled our collective regulatory resources to go much further (and be much more effective) in dealing with international issues than they ever were while we were separate bodies.

### Parallels with Korea

Most developed and many developing countries have changed their regulatory structures in recent years, with the major exception of the United States. At the risk of considerable simplification, the resulting structures can be grouped into five basic models. The first has already been described; the others are illustrated in summary form in the pages that follow.



**Figure 1.3.** Korea: Regulator separate from the central bank but not fully unified



**Figure 1.4.** Ireland: Regulator within the central bank

1. The fully unified regulator outside the central bank such as the UK’s FSA, with no supervisory powers remaining with the central bank
2. A largely unified regulator outside the central bank but with some supervisory powers remaining to the central bank, as illustrated for Korea in Figure 1.3
3. A largely unified regulator inside the central bank, as illustrated for Ireland in Figure 1.4
4. A “twin peaks” model with prudential and conduct of business split, as in the case of Australia illustrated in Figure 1.5
5. “Half-way houses,” such as the French model illustrated in Figure 1.6, which is probably best seen as being on the way to a twin peaks model

The particularly striking features of the Korean case are the continuing split between policy (in the FSS) and execution (in the FSC) and the

**Australia**

“Twin-peaks” model



**Figure 1.5.** Australia: “Twin-peaks” model

<p>Banque de France/ Commission Bancaire</p> <ul style="list-style-type: none"> <li>- Banks and prudential</li> <li>- Supervision</li> <li>- of securities companies</li> </ul>	<p>Commission de Des Assurances</p> <p><i>Insurance companies</i></p>	<p>Autorité des Marchés Financiers</p> <ul style="list-style-type: none"> <li>- Markets and Market Conduct</li> <li>- Conduct of Business</li> <li>- Fund Management</li> </ul>
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**Figure 1.6.** France has ended up with three peaks

remaining interest of the central bank and Ministry of Finance in a wide range of issues.

Given the pressures that must have been on the Korean regulators from 1997 and the consequent need to prioritize ruthlessly, I think it is amazing that the present structure is as coherent as it is. I also think that, as I tried to make clear in a UK context, it is vital for nonregulators to understand that some of the changes involved in a major reform of the regulatory structure in a country take a substantial amount of time. One cannot, for example, throw banking, securities, and insurance regulators together and expect a common regulatory philosophy and approach to follow neatly a year or two later; it just does not work like that. In other words, in most of the countries illustrated above, the regulatory regime is still in transition.

Into this category, in a Korean context, I would most definitely also put the issue of improving corporate governance. This requires among other things the creation (from very little) of a body of professionally competent, independently minded directors for public companies that just could not be engineered overnight. It also requires a huge change of mindset among executives, nonexecutives, investors, market analysts, and others. And it probably requires several reviews and refocusing when new problems emerge.<sup>16</sup>

It follows that I would be the first to recognize that the Korean financial authorities have got a lot right in the last few years. My comments about what more could usefully be done need to be read in that light and on the understanding that immediate action might not be either practical or sensible.

In that spirit, I would identify four important issues that are worth comment. First, and most importantly, the current structure of financial regulation in Korea appears complex and potentially unwieldy. Two aspects of this are striking:

a. It is not clear what is served by the spilt between the Financial Supervisory Commission (FSC) on the one hand and the Financial Supervisory Service (FSS) and Securities and Futures Commission (SFC) on the other. Policy (the key role of the FSC) and its implementation (the key role of the FSS and SFC) should surely be considered on an integrated basis, with input going both ways between the policy-makers and the line supervisors. Things cannot have been helped by the frequent changes that have occurred in the chairmanship of the FSC.<sup>17</sup>

b. There appear to be a significant number of further official bodies involved, including the Ministry of Finance and Economy (MOFE), the bank of Korea (BOK) and the Korea Deposit Insurance Corporation (KDIC). While this has obvious parallels to what has been done in Japan, an outside observer would have to ask whether this structure limits the scope for economies of scale in the use of scarce resources, introduces the

possibility of delays in policy formulation, and leaves the industry possibly confused as to who is in the lead.

Second, the arrangements described above all seem to contribute also to uncertainty over the independence of the regulator from the MOFE. Compared with the clarity and separation of responsibilities between just three bodies in the UK (the Treasury, the Bank of England, and the FSA), there appears to be considerable uncertainty in the system over the regulators' independence. When there are successes—or more importantly, issues of possible criticism—there will be a lack of clarity over who is responsible.

A third issue that I have heard raised is over the quantity and quality of regulatory rules issued and the extent to which rules have been applied equally across firms. Few firms like regulation, but many are prepared to put up with it if they at least feel that the rules are applied even-handedly and with some real regard for the needs of business. It is important for a regulator to do this and to be seen to do it.

A particular difficulty here, especially given the nature and severity of the late 1990s downturn, must have been the fourth and related issue—namely the possibility of conflict between the FSC's prudential responsibilities and those it was given in the late 1990s for restructuring in the corporate and financial sectors.

One can see that there must have been real efficiencies in bringing together these various responsibilities at the height of the crisis. And, of course, it is commonplace for the regulator to have views on and play a part in the restructuring of the financial sector. It after all has a detailed working knowledge of the major financial sector players and has to be satisfied—even without explicit responsibility for restructuring—that any consolidation being contemplated is actually going to improve the situation. I would not discount the real challenges that the Korean economy still faces and the ongoing problems in supervision arising in particular from the credit card crisis. But there must be an argument for reverting soon to a rather greater separation of the activities of regulation and restructuring.

## **Conclusion**

In conclusion, let me say just that there may never have been a time where so much regulatory change has occurred around the world as has happened in the last few years. The task of financial regulation is far from easy; and developments in markets, products, and technology threaten to keep up the pressure on regulators for many years to come. One driving force for change has undoubtedly been that, in the 1990s, more banks failed around the world than happened in the 1930s—a chilling statistic. Regulatory change is but one of the ways in which we regulators hope to

do better over the next ten years. I hope this essay helps to put some of the drivers of regulatory change into context by sharing the formative experiences we in the UK have had in moving from a highly decentralized system to a unified regulator.

## **Appendix: Memorandum of Understanding between HM Treasury, the Bank of England, and the FSA**

This Memorandum of Understanding establishes a framework for cooperation between HM Treasury, the Bank of England and the FSA in the field of financial stability. It sets out the role of each institution, and explains how they will work together towards the common objective of financial stability. The division of responsibilities is based on four guiding principles:

- clear *accountability*. Each institution must be accountable for its actions, so each must have unambiguous and well-defined responsibilities;
- *transparency*. Parliament, the markets and the public must know who is responsible for what;
- *no duplication*. Each institution must have a clearly defined role, to avoid second guessing, inefficiency and the duplication of effort. This will help ensure proper accountability;
- regular *information exchange*. This will help each institution to discharge its responsibilities as efficiently and effectively as possible.

### **The Bank's Responsibilities**

The Bank will be responsible for the overall stability of the financial system as a whole which will involve:

- i) stability of the monetary system. The Bank will monitor this, as part of its monetary policy functions. It will act daily in the markets, to deal with day to day fluctuations in liquidity;
- ii) financial system infrastructure, in particular payments systems and home and abroad. As the bankers' bank, the bank will stand at the heart of the system. It will fall to the bank to advise the Chancellor, and answer for its advice, on any major problem inherent in the payments systems. The Bank will also be closely involved in developing and improving the infrastructure, and strengthening the system to help reduce systemic risk;
- iii) broad overview of the system as a whole. The Bank will be uniquely placed to do this: it will be responsible for monetary stability, and will have high level representation at the institution responsible for financial regulation (through the Deputy Governor (financial stability), who will be a member of the FSA Board). Through its involvement in the payments systems it may be the first to spot potential problems. The Bank will be able to advise on the implications for financial stability of developments in the domestic and international markets and payments systems; and it will assess the impact on monetary conditions of events in the financial sector;
- iv) being able in exceptional circumstances to undertake official financial operations, in accordance with the arrangements in paragraphs 11 to

13 of this Memorandum, in order to limit the risk of the problems in or affecting particular institutions spreading to other parts of the financial system;

v) the efficiency and effectiveness of the financial sector, with particular regard to international competitiveness. The Bank will continue to play its leading role in promoting the City. Much of this work will be directed towards improving the infrastructure.

### **The FSA's Responsibilities**

The FSA's powers and responsibilities will be set out in statute. It will be responsible for:

i) the authorization and prudential supervision of banks, building societies, investment firms, insurance companies and friendly societies;

ii) the supervision of financial markets and of clearing and settlement systems;

iii) the conduct of operations has been agreed according to the provisions of paragraphs 11 to 13 of the Memorandum; and

a) the nature of the operations has been agreed according to the provisions of paragraphs 11 to 13 of the Memorandum; and

b) the operations do not fall within the ambit of the Bank of England defined in paragraph 2 above. (Such operations by the FSA may include, but would not be restricted to, the changing of capital or other regulatory requirements and the facilitation of a market solution involving, for example, an introduction of new capital into a troubled firm by one or more third parties.)

iv) regulatory policy in these areas. The FSA will advise on the regulatory implication for firms, markets and clearing systems of developments in domestic and international markets and of initiatives, both domestic and international, such as EC directives.

### **The Treasury's Responsibilities**

The Treasury is responsible for the overall institutional structure of regulation, and the legislation which governs it. It has no operational responsibility for the activities of the FSA and the bank, and will not be involved in them. But there are a variety of circumstances where the FSA and the bank will need to alert the Treasury about possible problems: for example, where a serious problem arises, which could cause wider economic disruption; where there is or could be a need for a support operation; where diplomatic or foreign relations problems might arise; where a problem might suggest the need for a change in the law; or where a case is likely to lead to questions to Ministers in Parliament. This list is not exhaustive, and there will be other relevant situations. In each case it will be for the FSA and the bank to decide whether the Treasury needs to be alerted.



### **Information Gathering**

Through the exercise of its statutory responsibilities, the FSA will gather a wide range of information and data on the firms which it authorizes and supervises.

The FSA and the bank will work together to avoid separate collection of the same data, to minimize the burden on firms. Where both need access to the same information, they will reach agreement as to who should collect it, and how it should be transmitted to the other.

The Bank will collect the data and information which it needs to discharge its responsibilities.

### **Information Exchange**

This will take place on several levels. The Bank's Deputy Governor (financial stability) will be a member of the FSA Board, and the FSA Chairman will sit on the Court of the Bank of England. At all levels, there will be close and regular contact between the FSA and the bank. The FSA and the bank will establish a program of secondments between the two institutions, to strengthen the links and foster a culture of cooperation.

The FSA and the bank will establish information sharing arrangements, to ensure that all information which is or may be relevant to the discharge of their respective responsibilities will be shared fully and freely. Each will seek to provide the other with relevant information as requested. The institution receiving this information will ensure that it is used only for discharging its responsibilities and that it is not transmitted to third parties except where permitted by law.

### **Standing Committee**

In addition to the above arrangements, there will be a Standing Committee of representatives of the Treasury, Bank and the FSA. This will meet on a monthly basis to discuss individual cases of significance and other developments relevant to financial stability. Meetings can be called at other times by one of the participating institutions if it considers there to be an issue which needs to be addressed urgently. Each institution will have nominated representatives who can be contacted, and met, at short notice.

In exceptional circumstances there may be a need for an operation which goes beyond the bank's routine activity in the money market to implement interest rate objectives. Such a support operation is expected to happen very rarely and would normally only be undertaken in the case of a genuine threat to the stability of the financial system to avoid a serious disturbance in the UK economy. If the bank or the FSA identified a problem where such a support operation might be necessary, they would immediately inform and consult with each other.

Each institution (the "lead institution") would take the lead on all problems arising in its area of responsibility as defined in paragraphs 2 and 3. The lead institution would manage the situation and co-ordinate

the authorities' response (including support operations). The form of the response would depend on the nature of the event and would be determined at the time.

In all cases the bank and the FSA would need to work together very closely and they would immediately inform the Treasury, in order to give the Chancellor of the Exchequer the option of refusing support action. Thereafter they would keep it informed about the developing situation, as far as circumstances allowed.

### **Consultation on Policy Changes**

Each institution will inform the other about any major policy changes. It will consult the other in advance of any policy changes which are likely to have a bearing on the responsibilities of the other.

### **Membership of Committees**

The FSA and the bank will co-operate fully in their relations with international regulatory groups and committees. They will both be represented on the Basle Supervisors' Committee, the EMI Banking Supervisors' Sub-Committee, and on other international committees where necessary. Where only one institution is represented, it will ensure that the other can contribute information and views in advance of any meeting; and will report fully to the other after the meeting. This will promote cooperation and minimize duplication.

The FSA and the bank will keep HM Treasury informed of developments in the international regulatory community which are relevant to its responsibilities.

The FSA and the bank have agreed the following arrangements for chairing domestic market committees:

- Sterling Markets Joint Standing Committee: the FSA
- Foreign Exchange Joint Standing Committee: Bank
- Derivatives Joint Standing Committee: the FSA
- Stocklending and Repo Committee: Bank

The FSA and the bank will each use best endeavors to facilitate contacts by the other with overseas central banks and/or regulators, where necessary to discharge their respective responsibilities.

### **Provision of Services**

In some cases it will be more efficient for a service to be provided by the FSA to the bank, or vice versa, rather than for both institutions to meet their own needs separately. In these cases, service agreements will be established between the two institutions setting out the nature of the service to be provided, together with agreed standards, details of timing, charges (if any), notice periods, and so on. These agreements will in the first instance cover: provision of facilities (premises, IT etc) during the transitional phase; the provision of analysis on domestic and overseas

financial markets; the provision of research; and the processing of statistical information.

### **Litigation**

The Bank will retain responsibility for any liability attributable to its acts or omissions in the discharge or purported discharge of its banking supervisory functions prior to the transfer of these functions to the FSA and shall have the sole conduct of any proceedings relating thereto. The two institutions will co-operate fully where either faces litigation.

### **Records**

The FSA will be responsible for the custody of all supervisory records. It will ensure that, within the framework of the relevant legislation, the bank has free and open access to these records.

### **Notes**

*Author's note:* Michael Foot is adviser to (previously managing director of) the UK Financial Services Authority. Written for the 2004 EWC/KDI Conference on "Regulatory Reforms in the Age of Financial Consolidation," Honolulu, July 29–30, 2004.

1. LOLR is, of course, a function now shared by many central banks around the world, though there are countries (notably Germany) where the role is played by a different official body. There are also many countries where a deposit protection scheme (such as the FDIC in the United States or the Deposit Protection Board in the Philippines) takes an active part in the rescue of banks and plays a role with some similarities to LOLR.
2. Personally, I find this unconvincing. The potential failure of anything other than a small bank is likely to be of such significance that, in any system, a policy clash of this kind is likely to find its way up the system to the level in government where "balancing acts" between conflicting objectives can be made. No system surely has such rigid demarcation of policy responsibilities that the various arms of government involved would not come together to discuss their respective worries.
3. One of the first decisions of the new FSA management was that new harmonized terms of employment should be offered to staff and that every effort should be made to encourage them to sign. In general, the result was a rise in pay levels for some but not all staff and the ending/buying-out of a number of previous subsidies.
4. There has always been a small office additionally in Edinburgh, Scotland, and the pressure may grow for the opening of further regional offices around the UK as the FSA's powers are extended further.

5. There is a parallel statutory Consumers' Panel, and also a nonstatutory Small Business Panel.
6. Defined to exclude interbank deposits and to give a higher weight to £ deposits than foreign currency ones.
7. It has, however, worked perfectly well in respect of many potential crises, such as the Asian crisis, LTCM, the preparations for Y2K, and the consequences of the collapse of the equity market in 2000–2003.
8. IMF's "United Kingdom: Financial System Stability Assessment," February 2003.
9. This did not mean that people of comparable skills and experience necessarily got the same pay from day one, as we had no way initially of comparing the experience and standing of, say, an insurance regulator against that of a securities regulator. A reasonably full integration took about five years.
10. One of the earliest had, of course, been the U.S. banking regulators' CAMEL model (Capital, Assets, Management, Earnings, Liquidity).
11. For the announcement, see "A New Regulator for a New Millennium," FSA, January 2000. For more information, see "Building the New Regulator," FSA, December 2000.
12. Financial failure, mismanagement, consumer understanding, dishonesty, market abuse, money laundering, and market quality.
13. Introduction to *The Financial Risk Outlook*, published in January 2004.
14. This is more difficult because typically the national regulators will have been set different objectives. But even with a relatively common one—which in essence is to keep to a minimum the number and cost of bank failures—a regulator who has failed to do so will often plausibly argue that this is the fault of the macroeconomic policy of its government and has nothing to do with its regulatory record.
15. To illustrate, research shows that 25 percent of British adults, if given a Yellow Pages telephone directory, cannot find the phone number for a plumber. Some 40 percent of adults cannot explain what a "percentage" is or what, say, 40 percent actually means!
16. The main corporate governance code in the UK has, for example, been significantly redrawn three times in the last decade.
17. As if to illustrate my concern, the then FSC chairman resigned the day after my presentation at the conference.

## **2. An American Perspective on the UK Financial Services Authority: Politics, Goals, and Regulatory Intensity**

Howell E. Jackson

### **Introduction**

In much comparative corporate law scholarship, the United States and the United Kingdom (UK) are considered to be of one piece. Particularly in the area of capital markets, the “Anglo-American” approach to regulation is typically contrasted to continental or civil law systems. With their shared traditions of laissez-faire capitalism, common-law jurisprudence, self-regulatory organizations, and disclosure-based securities regulation, the United States and the United Kingdom are often portrayed as fellow travelers in the world of financial regulation. Indeed, in formal empirical work on the subject, the two countries commonly occupy the same dummy variable.<sup>1</sup>

In terms of organizational structure, however, the U.S. and UK systems of financial regulation could not be farther apart. Our system is the most decentralized and fragmented in the world; theirs is now among the most centralized and integrated. Ours is the product of centuries of bureaucratic accretions, with every generation adding new administrative units and regulatory requirements while seldom if ever abandoning innovations of the past. Theirs is the precocious child of Labour Party reforms of the late 1990s, as unlike the old clubby ways of the City as the Canary Wharf towers are from the East End tenements they replaced.

So the puzzle arises: How can two countries that are shoulder to shoulder on the substance stand so far apart when it comes to matters of form? In this essay, I identify several different factors that have contributed to the substantial divergence in U.S. and UK regulatory structures. I focus my attention on three reasons why the United Kingdom has developed such a markedly different system of financial regulation than the one that exists on this side of the Atlantic. First, I consider difference in the political context in which both countries undertook financial reform in the late 1990s; second, I note differences in the national objectives for financial regulation in the two countries; and finally I highlight differences in the intensity of regulatory oversight in the two countries. All three of these considerations contribute, I believe, to the very substantial difference in regulatory structure that separates the United States and the United Kingdom.

While this essay limits its analysis to the regulatory structures in two jurisdictions, its implications are substantially broader. The premise of my analysis is that regulatory structures within individual countries are a product of numerous considerations that are likely to vary from jurisdiction to jurisdiction. The structure and priorities of domestic political institutions as well as the goals of financial regulation within individual countries can factor heavily into the evolution of regulation structures, as the British and American experiences illustrate. These factors also influence the scale and intensity of financial regulation, which themselves may affect the likelihood that particular jurisdictions will pursue certain regulatory strategies, such as consolidation of regulatory functions. So, while there are many benefits to be gained from international comparisons of regulatory design and structure, there are numerous and entirely legitimate constraints on the harmonization of regulatory structures, at least in the short and intermediate term.

### **The Political Economy of Financial Reform**

As several recent papers have chronicled, the path to the establishment of the Financial Services Administration has been long and arduous, dating back to election of the new Labour government in the spring of 1997.<sup>2</sup> At roughly the same time, the United States was also engaged in its own process of financial modernization, culminating in the passage of the Gramm-Leach-Bliley Act in November of 1999.<sup>3</sup> What is striking about these two roughly contemporaneous legislative efforts is how different was the scope of the regulatory reforms attempted. A major achievement of British financial modernization was the consolidation and centralization of regulatory power into a unified Financial Services Authority (FSA). To some degree, this process represented a continuation of efforts begun in the 1980s to move away from the self-regulatory model that had characterized British supervision for more than a decade. But the singular achievement of the legislative process that culminated in the passage of the Financial Services and Markets Act (FSMA) of 2000 was the consolidation of nearly a dozen supervisory units in a new organization with responsibility for nearly all sectors of the financial services industry.<sup>4</sup>

The Gramm-Leach-Bliley Act, in contrast, was almost devoid of bureaucratic rationalization or reform, even though the U.S. system of financial regulation is even more decentralized and fragmented than the traditional British system. At various points in years leading up to the enactment of Gramm-Leach-Bliley, Clinton administration officials floated some relatively modest suggestions for consolidating depository insurance funds or creating a new high-level council of senior regulatory officials to resolve thorny jurisdictional issues, but even these limited proposals generated intense political opposition and were quickly dropped from legisla-

tive proposals.<sup>5</sup> In the end, the legislation limited itself to a relatively narrow range of issues, principally clarifying the scope of permissible fiscal activities for financial conglomerates and establishing modest protections for the security of consumer privacy in financial matters. In terms of organizational changes, the legislation did not eliminate a single regulatory agency; indeed, it set in motion a process that might have created a new regulatory body for the oversight of insurance agents.<sup>6</sup>

So the question arises: Why is it that reform efforts in the United Kingdom in the latter half of the 1990s led to substantial regulatory consolidation there, while contemporaneous reform efforts in the United States led to no similar developments? While many considerations undoubtedly contributed to this difference, I would note four contributing factors: (1) the parliamentary system of government, (2) the acquiescence of muddling through, (3) the role of European institutions, and (4) local political considerations.<sup>7</sup>

### **Parliamentary System of Government**

From an American perspective, one of the most striking features of reform in the United Kingdom was the ability of the Labour government to control the terms of the reform debate, proposing an initial reform bill, maintaining control over the course of floor debate and amendments, and reaching a relatively prompt resolution within a relatively few years. When the Clinton administration joined the debate, it was entering a process that had been underway for more than ten years.<sup>8</sup> Although the Treasury Department under the leadership of Secretary Robert Rubin ultimately developed statutory language for congressional consideration, the bill that became the Gramm-Leach-Bliley Act was largely the product of legislative processes to which the executive branch made regular contributions but over which it could not exert meaningful leadership, beyond a veto threat for a limited number of provisions. In the area of structural reform, political forces were particularly resistant to reform proposals, and in a number of areas where jurisdictional conflicts were especially acute, the Gramm-Leach-Bliley Act demurred by calling on the courts to resolve future conflicts.<sup>9</sup> To be sure, reform proposals in the late 1990s in the United States were complicated by the presence of a divided government—the Republican Party then controlled both the House and the Senate—as well as the added complexities of a presidential impeachment, but it is hard to imagine any American administration, even with both houses of Congress in friendly hands, proposing so sweeping a program of governmental reform in the field of financial services and then seeing the proposal to successful adoption in only a handful of years.

A variety of factors contribute to difficulties that any American executive faces in proposing and gaining legislative support for structural changes in regulatory reform. The highly decentralized structure of tradi-

tional financial regulation in the United States creates numerous constituencies inclined to resist any efforts to make major changes in regulatory structures. These likely opponents for reform include not just participants in the financial services sector who may be disadvantaged from structural changes, but also their trade groups, regulatory officials, and even congressional representatives, all of whom may fear that movement from the status quo may cost them status or employment. One often-cited example of this phenomenon is the opposition that members of the congressional agricultural committees typically voice in the face of proposals to consolidate the regulation of derivatives and securities in the United States, as the consolidated agencies would almost certainly be located under the control of the congressional committees focusing on financial services.

Of course, the American opposition to regulatory consolidation is not based solely on the self-interest of affected parties. One of the reasons that entrenched interests can mount effective challenges to regulatory reforms is that there is a strong historical bias against consolidated power at the national level. Division of power between national authorities and state officials as well as separation of powers at the federal level is a hallmark of the U.S. regulatory system. In defending the status quo, opponents of regulatory reform in the United States can tap into heart-felt themes of American political thought that date back to the earliest years of the republic. This bias against consolidated governmental power partially explains why American administrations have had so little success in consolidating regulatory functions in the United States, at a time when their counterparts—and in particular their counterparts in the United Kingdom—have been so much more successful.

### **Acquiescence of Muddling Through**

Another characteristically un-American feature of the British reform effort was the highly ad-hoc manner in which the reforms proceeded. The Financial Services Authority was established before its formal powers were fully enacted.<sup>10</sup> For its first few years of operation, the agency assumed supervisory functions delegated from other governmental units. Personnel from other agencies were routinely seconded to FSA offices, and gradually the staff of numerous agencies were merged into the FSA's own ranks of personnel. While this informal interregnum allowed the FSA staff a chance to grow into its powers and shape its ultimate legislative mandate, it is hard to imagine reform efforts proceeding in precisely the same consensual manner in the United States.<sup>11</sup> With so much regulatory power shifting hands and various oxen inevitably being gored at least in passing, one expects that a comparable exercise in the United States would have unleashed a barrage of lawsuits claiming deviations from statutory grants of power or violations of separation of powers principles.<sup>12</sup> While the



American aversion to unauthorized exercise of governmental authority has its virtues, the litigiousness and combativeness through which this sensibility is often expressed makes informal regulatory accommodation of the sort employed in the early years of the FSA difficult to achieve in the United States and seldom a major feature of our reform proposals.<sup>13</sup> Rather the tendency is to try to spell out all of the details of reform efforts at the outset, thereby clarifying their statutory basis but also presenting juicy targets at which potential opponents can take aim.<sup>14</sup>

A connection exists, I think, between the British willingness to muddle through and its system's ability to avoid the sort of political logjams that characterize U.S. reform efforts. In my mind, a good example of this connection was the FSA's approach to personnel issues. As mentioned above, in the United States, a natural source of resistance to regulatory reforms has been regulators themselves who may reasonably fear that consolidation of regulatory functions will eliminate their positions or at least diminish prospects for advancements, thereby stimulating the sort of bureaucratic in-fighting that can derail the legislative process. To ameliorate resistance of this sort, the framers of the FSA process guaranteed continuity of employment for all regulatory personnel over the course of the consolidation process. Although a relatively minor feature of a major legislative agenda, this attention to individual concerns may have smoothed the reform process, albeit at the expense of recognizing economies of scale in the short term.<sup>15</sup>

While the Gramm-Leach-Bliley reform process never contemplated substantial consolidation of regulatory functions, it did include provisions designed to create uniformity of interpretations between the principal federal banking agencies: the comptroller of the currency and the Federal Reserve Board. Rather than leaving these interpretive issues to informal processes, the legislative process necessitates complex and multifaceted negotiations between the Treasury Department and the Federal Reserve Board, culminating in a complex set of statutory provisions defining extremely precise scopes of authority with mandatory consultations and procedures for judicial review.<sup>16</sup> Far from muddling through, these provisions reflect a strongly legalistic and stylized approach to lawmaking in the financial services industry. Similar forms of cooperation were also specified for banking regulators and state insurance supervisors, and apparently the resulting framework has proved workable for the industry.<sup>17</sup> These ad hoc accommodations are, however, unlikely to promote the evolution of significant changes in regulatory design.

### **Role of European Institutions**

A further distinguishing feature of the political economy of the United Kingdom is the influence of the European Union and other European legal structures. While not prominently featured in many accounts of the birth

of the Financial Services Authority, developments on the Continent played an important role in the emergence of the agency. For one thing, a number of European Union directives required member states such as the United Kingdom to make certain reforms in their regulatory structure. For example, certain directives in the field of securities regulation called for the movement of certain regulatory functions out of self-regulatory organizations, such as the London Stock Exchange, and into governmental agencies. Moreover, the total volume of European Union directives in the field of financial regulation required British regulators to assume tasks and meet formal standards well beyond those traditionally assumed. While the old decentralized regulatory structure could have been adapted to meet these multilateral commitments, the presence of these new requirements contributed, in my view, to the national consensus in the late 1990s that full-fledged reform of the UK regulatory structures was in order. To a certain degree, this sentiment may have been enhanced by concerns that financial innovations on the Continent—both the rapid growth of stock markets in France and Germany plus the emergence of a Eurozone in which the United Kingdom was not to be a member—contributed to a climate conducive of decisive action in the field of financial reform.<sup>18</sup>

For U.S. reform efforts, there is no ready analog to the European Union. To a certain degree, NAFTA and to a lesser extent the WTO have had the effect of opening U.S. financial services markets to foreign firms, but these trade agreements have not required domestic reforms of the sort that, for example, the Financial Services Action Plan has had on the United Kingdom and other member states. In many instances, of course, U.S. regulatory requirements have informed the development of international standards, enunciated through organizations such as the Basel Committee on Banking Supervision or the International Organization of Securities Commissioners. But in these cases, the United States was generally exporting its regulatory requirements, not bringing itself in alignment with externally developed standards. Moreover, where multilateral agreements have presupposed domestic regulatory reforms in the financial services industry, the United States has—at least of late—shown dogged reluctance to conform to the expectations of counterparties. In the past year, the best example of this tendency would be the announcement that federal banking officials would impose extensively reformed provisions of the Basel Capital Accord. So, as a matter of experience and predilection, the evolution of external regulatory standards has not been a major factor in forcing regulatory reforms in the United States.

### **Local Political Considerations**

Last and not least are significant differences in the local political dynamics. When the Blair government came to power in 1997, British consumers had suffered through a series of domestic scandals, ranging from widely publi-

cized abuses in the sale of pensions to the spectacular failures of Barings and the Maxwell interests. Reformers could and did capitalize on these issues to expose perceived weaknesses in traditional regulatory systems and to justify far-reaching regulatory reforms such as the FSMA. By the late 1990s in the United States, by contrast, outrage over our then most recent financial scandal—the savings and loan crisis—had largely faded, and the country had enjoyed several years of record-high stock prices and record-low bank failure rates. Aside from concerns of financial privacy that overtook the legislative process in mid-1999, the politics of financial modernization in the United States was fairly low-key. The most zealous advocates for reform were members of the financial services industry seeking to eliminate long-standing but already partially eviscerated activities restrictions. The substantially higher level of public interest in financial regulation in the United Kingdom in the late 1990s helped propel the United Kingdom to much more substantial regulatory reforms than would have been feasible in the United States.

Since the passage of the Gramm-Leach-Bliley Act, of course, the United States has encountered major financial scandals, including the bursting of the technology stock bubble in 2000, coupled with corporate accounting scandals and securities industry abuses uncovered in the next few years, as well as more recent scandals of the mutual fund industry and New York Stock Exchange compensation arrangements. Major legislation in the form of the Sarbanes-Oxley Act of 2002 ensued, with much fanfare and substantial implications for corporations in the United States and around the world. The reforms of Sarbanes-Oxley, however, did not address regulatory consolidation or simplification. Indeed, the only structure reform of the act was to add a new regulatory in its creation of the Public Company Accounting Oversight Board. While difficulties at the NYSE have prompted some to call for a reduction in our reliance on self-regulatory organizations, no specific reform proposals have been adopted, and at least for the time being, prospects for such changes seem unlikely.

While one must be circumspect in locating differences in national regulatory strategies in any single factor or set of factors, the substantial differences in the regulatory scope of the FSMA and the Gramm-Leach-Bliley Act at roughly the same time does invite speculation as to the reasons for those differences. In my mind, striking points of difference were the capacity of the new Blair government to utilize a strong parliamentary majority to effect the changes; the flexibility of the British system of government to allow such a large-scale legislative reform to be worked out in a pragmatic but substantially more informal process than the United States political system would have allowed; pressures from political developments at the European Union level that necessitated a variety of reforms at the domestic level; and recent political developments that created some degree of public support for regulatory reforms included in the FSMA.

## A Comparative Analysis of Regulatory Objectives

Another explanation for the differences in U.S. and UK regulatory structure is a substantial divergence between the objectives of regulatory structures in the two countries. As explained below, the United States has an ambitious set of goals for its financial regulators. The British objectives are on balance more modest and in certain critical respects better suited for a consolidated supervisory apparatus.

### Regulatory Objectives in the United States

As I have written at length elsewhere, the United States has a broad set of regulatory goals for its financial regulators.<sup>19</sup> While the importance of these goals varies somewhat from sector to sector within our financial services industry, the four following categories reflect our dominant regulatory priorities.

1. *Protection of depositors, policyholders, and investors.* First and foremost, our financial regulatory structure is designed to protect consumers from losses and abusive practices. In some contexts—including bank deposits of less than \$100,000 and certain pension plans—the protection we afford is absolute. Elsewhere (e.g., in the field of securities regulation), we impose significant restrictions on the terms of permissible competition and mandate the disclosure of large amounts of information, both to promote consumer self-help and to secure the protection of market forces. Much financial regulation in the United States serves the goal of consumer protection.
2. *Reduction of externalities.* A separate justification of financial regulation in the United States is the elimination of various externalities associated with financial failures. The Federal Reserve Board's lender of last resort function serves this purpose, as does the oft-maligned but still extant too-big-to-fail policy of federal banking regulators. The extent to which financial regulators should impose regulatory restraints out of concern for externalities is controversial, but there is little doubt that one of the reasons we regulate financial intermediaries in the United States is to prevent potential losses to parties that are not indirect contractual privity with intermediaries.
3. *Redistributive policies and other equitable norms.* A third and less well publicized goal of financial regulation in the United States is to advance various redistributive policies and other equitable norms. A good example of this phenomenon is the Community Reinvestment Act for depository institutions, but analogs also exist in the insurance industry and, to a limited extent, in the securities field. In many respects, we see our financial intermediaries as vehicles to implement a range of social policies, and financial regulators often find themselves agents in advancing these goals. Insurance regulators, for example, must often opine on whether it is permissible for

the price of car insurance to vary based on the gender or educational level of drivers, and pension officials must decide whether lower-income workers receive an equitable share of retirement benefits.

4. *Considerations of political economy.* Finally, broader considerations of political economy routine factor into our system of financial regulation. Perhaps the best example of this practice has been our historic aversion to nationwide banking, which still influences a profound effect on our banking system. In addition, political preferences for state control explain the persistence of state control over the insurance industry and overlapping state and federal jurisdiction in both banking and securities. Moreover, one might well attribute the fragmentation of supervisory control at the federal level to a national taste for separation of powers dating back to the early years of the republic.

### **Regulatory Objectives in the United Kingdom**

In defining the regulatory goals of financial regulation in the United Kingdom, we are fortunate that Parliament went to considerable lengths in the enactment of the Financial Services and Markets Act of 2000 to articulate a series of four statutory objectives, as well as six principles of good regulation. I will first review these regulatory goals and then contrast them with the goals of financial regulation in the United States.

#### *Statutory Objectives*

The Financial Services and Markets Act set out of the FSA four statutory objectives: market confidence, public awareness, consumer protection, and reduction of financial crime.<sup>20</sup>

1. *Market confidence.* Market confidence relates to the preservation of both financial stability and the reasonable expectation that the financial system will remain stable. Its maintenance is supposed to provide market participants and consumers with the relevant incentives to trade in financial markets and use the services of financial institutions. According to the FSA, achieving market confidence involves the imposition of two steps: (a) to prevent material damage to the soundness of the UK financial system caused by the conduct—or collapse—of firms, markets, or financial infrastructure, and (b) to explain on what basis confidence in the UK financial system is justified. The latter includes stating explicitly what the regulator can and cannot achieve.<sup>21</sup>
2. *Public awareness.* With the enactment of the FSMA, the FSA was also given a specific objective in the area of consumer education. Reflecting a concern that consumers are not always in a position to judge the safety and soundness of particular financial institutions or to assess the risks associated with certain products,<sup>22</sup> the act requires the FSA to pursue two main aims under the objective of

public awareness: (a) to improve general financial literacy, and (b) to improve the information and advice available to consumers.<sup>23</sup> The FSA not only provides generic information and advice to consumers, but also it encourages others to improve the availability and quality of their advice. In doing so, the FSA has developed a system of information and inquiry services, which includes the statutory register of authorized firms and the Consumer Helpline. To enhance public awareness about financial services, the FSA has developed partnerships with regulated business, trade associations, consumer groups, and educational institutions.

3. *Consumer protection.* Public awareness is closely interlinked with the objective of consumer protection. The FSMA charges the FSA with the task of “providing an appropriate degree of protection for consumers.” The legislation envisages that the prime responsibility for dealing fairly with consumers rests with the management of regulated firms. So the FSA’s regulatory approach is designed to focus and reinforce that responsibility, emphasizing the robustness of firms’ systems for identifying, measuring, and controlling risks both to the firm itself and to its customers. To this end, the FSA has also put in place mechanisms for complaints handling and redress that offer greater simplicity and ease of access to consumers. As required by the FSMA, a single financial services ombudsman scheme and a unified compensation scheme have been introduced, with a range of mechanisms for different markets and types of customers.<sup>24</sup>
4. *Financial crime.* On the grounds that market confidence and consumer protection are significantly undermined if the financial system is not adequately protected from criminal abuses, the FSA is also obliged to reduce the extent to which it is possible for regulated institutions to be used in connection with financial crime.<sup>25</sup> This objective integrates the relevant efforts of financial regulators with those of other criminal law intelligence, investigation, and prosecution agencies. Together with certain new powers set out in the FSMA, it enables the FSA to build on the work that existing regulators have undertaken in this area in the past. Its prime focus is to ensure that financial institutions have systems and practices in place to protect themselves against being used as vehicles by financial criminals, especially by way of money laundering. In its effort, the FSA works closely with other organizations such as the police and various public prosecutors.

*Principles of Good Regulation*

In pursuing its objectives, the FSA is required to take into account six additional principles of good regulation set out in the FSMA.<sup>26</sup> The principles and the FSA's interpretation of them are as follows.

1. *Efficiency and economy.* This principle relates to the way in which the FSA allocates and uses its resources. When addressing a specific risk, the FSA is required to choose the options that are most efficient and economical. It goes beyond the statutory requirement to consult on fees and consult on its budget, explaining how it plans to use the funds levied through regulated firms. The nonexecutive committee of the FSA Board is required among other things to oversee the use of resources and to report to the Treasury every year.
2. *Role of management.* A firm's senior management is responsible for its activities and for ensuring that its business complies with regulatory requirements. This principle is designed to guard against unnecessary intrusion by the regulator into firms' business and requires the FSA to hold senior management responsible for risk management and controls within firms.
3. *Proportionality.* The restrictions imposed on firms and markets should be in proportion to the expected benefits for consumers and the industry. In making judgments in this area, the FSA takes into account the costs to firms and consumers. One of the main techniques the FSA uses is analysis of the costs and benefits of proposed regulatory requirements. This approach is shown, in particular, in different regulatory requirements applied to wholesale and retail markets.
4. *Innovation.* The FSA should allow and encourage innovation—for example, by avoiding unreasonable barriers to entry or not restricting existing market participants from launching new financial products and services. This duty is best pursued through the maintenance of close relationships between the regulators and regulated institutions. Institutions are thus encouraged to discuss new product ideas and new market developments with the FSA at an early stage to ensure that the risks—for them and their customers—are properly understood and managed from the outset.
5. *International character of financial services and markets and the desirability of maintaining the competitive position of the UK.* London is a uniquely international center of financial services, with many foreign banks and other financial institutions conducting business within the jurisdiction. Much of the business undertaken in the UK is internationally mobile, and almost all aspects of the FSA's responsibilities have an international dimension. The FSA is therefore committed to playing a full part in discussions with international regulatory bodies, to ensure that the UK's influence on the

development of international regulatory standards is commensurate with the weight of its markets in global terms. In many areas, this work proceeds in partnership with the Bank of England.

The FSA also considers the effect on UK markets and consumers of the economic, industry, and regulatory situation overseas. It takes into account the international mobility of financial business and seeks to avoid damaging the competitive position of the UK. This involves cooperating with overseas regulators, both to agree on international standards and to monitor global firms and markets effectively. Especially within the European Union, cooperation with other member states' regulators has taken the form of formal networks, such as the Committee of European Securities Commissions.

6. *Competition.* The FSA must avoid unnecessarily distorting or impeding competition.<sup>27</sup> This includes avoiding unnecessary regulatory barriers to entry or business expansion. Competition and innovation considerations play a key role in the FSA's cost-benefit analysis work. Under the FSMA, both the Office of Fair Trading and the Competition Commission will have a role to play in reviewing the impact of the FSA's rules and practices on competition.

### **A Comparative Analysis**

When one lines up the justifications for financial regulation in the United States with the regulatory goals of the FSA as articulated in the FSMA, a number of interesting differences emerge, many of which factor into the differences in organizational structure that have evolved in the two countries.

#### *Primacy of Market Confidence over Consumer Protection*

An initial point of divergence is over the primary mission of each country's system of financial regulation. In the United States, consumer protection is typically advanced as the most prominent justification for financial regulation. Although systemic risk is also a consideration—particularly in the area of depository institutions—the primary mission of much of U.S. financial regulation is to protect consumers from corporate overreaching or unexpected financial failures. Under the FSMA, the priorities of the regulatory agency are reversed. The first statutory goal of the FSA is the maintenance of market confidence—an aspiration highly analogous to the containment of systemic risk.

#### *Different Approach to Consumer Protection*

The degree of consumer protection sought under the FSMA is also quite different from that characteristic of U.S. regulatory structures. While the United States through its public insurance programs and extensive enforcement apparatus—both public and private—often purports to afford



comprehensive or nearly comprehensive protections for consumers, the FMSA establishes a much more modulated approach to the problem. In its statutory objectives, the act calls for only an “appropriate degree” of consumer protection and then expressly notes the importance of managerial oversight from private firms. The principles of good regulation amplify this perspective by again noting the role of management in ensuring regulatory compliance and in two different principles (the one on efficiency and economy and the second on proportionality) emphasizing the importance of cost-benefit analysis in financial regulation.

*Competition and Innovation as a Regulatory Goal*

From an American perspective, another striking characteristic of the regulatory mission of the FSA is the prominence given competition and innovation as explicit goals of the agency. While U.S. financial regulatory agencies are often directed to take competitive considerations into account, typically these directions are framed as limiting principle on other regulatory goals.<sup>28</sup> Under the FSMA, competition and innovation are expressly listed as independent principles of good regulation. Even more strikingly, the preservation of London as a leading financial center is elevated to a regulatory goal. To a certain degree, this elevation of competition and innovation could be understood as an extension of other principles advancing goals of cost-justified regulation. However, there is also—it seems to me—something like a legacy of an older system of self-regulation in the City that has a quite different flavor than most financial regulation in the United States.

*Differences in Other Regulatory Goals*

Another telling difference between U.S. and UK regulatory goals relates to the secondary regulatory missions that characterize each country’s regulatory aspirations. Under the FSMA, the FSA is given a relatively modest set of supplementary goals: improving the financial education of consumers and reducing financial crime. Analogs of both regulatory goals can be found in the U.S. regulatory structure. Improving understanding of self-directed retirement savings accounts, such as 401(k) plans, has been a priority of the Department of Labor for a number of years, and the SEC also devotes some of its resources to individual investor education. On the financial crime side, federal legislation regarding money laundering has been on the books for many years, and was substantially enhanced in the Patriot Act after the September 11 terrorist attacks. But notably absent from the FSMA is the relatively extensive set of secondary roles that U.S. financial regulators are called upon to play. As explained above, these goals include both social equality and income redistribution, regulatory objectives that are singularly absent from the FSA’s mandate. In addition, our regulatory system expressly advances certain visions of political economy, including the preservation of smaller, local financial institutions (par-

ticularly in the field of depository institutions) and also a fragmented system of financial regulation (both between federal and state authorities and within the federal government). The FSMA shares none of these missions. Indeed, to the extent that the agency's mandate includes the preservation of London as a financial center, one might infer a slight bias in favor of larger institutions and a unified system of oversight.

### **Implications for Regulatory Structure**

The differences in the goals of financial regulation in the United Kingdom and the United States have, in my view, a direct impact on the regulatory structure that each country has adopted. The relationship is most obvious in the case of our political preference for divided systems of financial regulation, which is flatly inconsistent with a consolidated supervisory structure. But the other differences noted above also, I think, play into the variation in organizational structure.

For example, both the FSMA's mandate for cost-effective regulation and regulation that promotes innovation and competition tend to favor less extensive regulatory structures. Moreover, to the extent that the FSA's primary mission is to prevent systemic risks and not to ensure the safety and soundness of each consumer's investments, the scope of regulatory oversight is likely to be less extensive than in the United States, where consumer protection is of central importance. When one factors in the cost of imposing the much more extensive secondary regulatory goals of U.S. supervisors, the likely differences in regulatory intensity between the two countries expand further. While one might quibble about the relationship between regulatory intensity and organizational structure, a plausible hypothesis is that as the degree of regulatory intensity increases, consolidation of regulatory functions becomes more cumbersome and difficult to achieve.

The organizational structure of the FSA itself also reflects, I believe, the policy goals of the underlying legislation. As has been elaborated in other articles, one of the distinctive features of the British Financial Services Authority is the functional manner in which the agency is organized.<sup>29</sup> Rather than maintaining separate divisions for the various sectors of the financial services industry, the FSA's regulatory staff is divided into three functional directorates (see Figure 2.1). As outlined below, this organizational structure can be explained in terms of the FSMA's statutory objectives and principles of good regulation.

The first directorate—the Regulatory Processes and Risk Directorate—handles authorizations (i.e., licensing) and enforcement for all sectors of the financial services industry in addition to maintaining a division that considers regulatory strategies and risk analysis. This directorate is truly cross-sectoral in that all of its operating divisions span the financial services industry.<sup>30</sup> To achieve this same result in the United States, the insur-

ance company licensing offices of the fifty states would need to be combined with the OCC's chartering unit—along with SEC, NASD, and state Blue Sky procedures for registering new broker-dealers—in a single division of a regulatory body. And then, as part of the same division, the enforcement staffs of all banking, securities, insurance, and futures regulatory agencies would need to be located as part of the same division in neighboring offices. Although it is not clear whether consolidations of this sort would be cost-effective within the context of the U.S. regulatory structure, within the United Kingdom this approach to licensing and enforcement arguably improves efficiency and is thus consistent with this aspect of the agency's statutory objectives. Similarly, setting up a separate unit to consider regulatory strategy and overall risk allows the agency to deploy its supervisory resources in a more cost-effective manner than would likely be possible if the organization were divided into more familiar sectoral divisions.<sup>31</sup>

The FSA's two other functional divisions—the Consumer, Investment and Insurance Directorate and the Deposit Takers and Markets Directorate—also strike me as heavily influenced by the agency's statutory objectives, although in a manner that may not be immediately apparent to foreign observers. Both of these directorates include divisions linked to particular subsectors of the financial services industry as well as more general functional authority. What is confusing for U.S. observers about this arrangement is that elements of the securities industry are spread across the two directorates. Exchanges are located in the Deposit Takers and Markets Directorate, whereas collective investment vehicles and certain retail brokerage functions are located in the Consumer, Investment and Insurance Directorate. While this allocation of responsibility divides what we

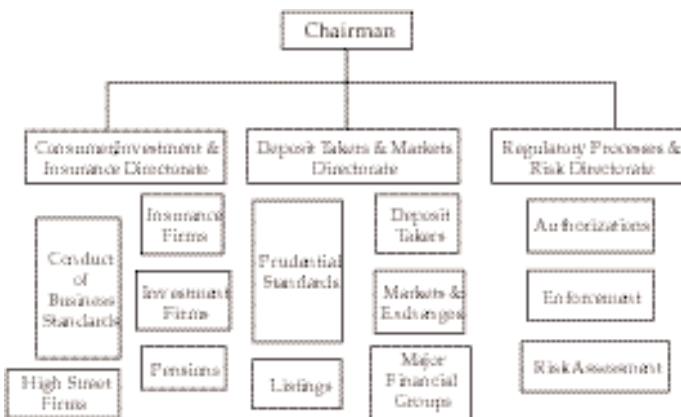


Figure 2.1. The FSA organizational structure

think of as SEC functions in the United States, it arguably follows the functional divisions implicit in the FSA's regulatory objective. The Deposit Takers and Markets Directorate has responsibility for the agency's foremost mission: the preservation of overall market integrity. The directorate therefore deals with those financial activities most likely to threaten that integrity, including major financial conglomerates and exchanges, and includes a separate division specializing in prudential regulation. The Consumer, Investment and Insurance Directorate, on the other hand, deals with the areas in which consumer protection rather than market integrity is the key concern.

This division between market integrity functions and consumer protection functions strikes me as one of the most interesting features of the FSA's regulatory structure with potentially far-reaching consequences for regulatory policy. As others have noted before, this organizational structure allows for truly consolidated supervision. Of necessity, consumer protection in various subsectors of the financial services industry—whether insurance, banking, or securities products—will be informed by practices in other sectors. Similarly, oversight of market integrity will tend to become more comparable across sectors as supervisory standards emanate from a unified authority. So the twin peaks approach to financial supervision allows for more consistent oversight across sectors of the financial services industry.

But the separation of market integrity from consumer protection at the FSA also strikes me as an important manifestation of the FMSA's twin goals of achieving an extremely high level of protection of the integrity of markets but imposing a lighter touch in the field of consumer protection. Empowered to focus its efforts exclusively on identifying and eliminating risks that might plausibly threaten the overall financial system, the Deposit Takers and Exchange Directorate can keep its eye on the big fish of systemic risk without being constantly distracted by the multitudinous minnows of consumer protection. The regulatory muscle of the directorate can therefore be deployed where perceived risks to market integrity are greatest and not in a manner required to eliminate the largest number of relatively minor harms.<sup>32</sup>

The creation of the Consumer, Insurance and Investment Directorate similarly splits off what I would characterize as the FMSA's lesser goal of advancing consumer protection. As mentioned above, the act in a way characterizes consumer protection as a regulatory function that should be advanced in a limited manner and on a cost-conscious basis, with consumer education and delegation of responsibility to management as viable alternatives to direct regulation. By separating out issues of market integrity—where supervisory standards toward infractions and risk are necessarily more absolute—the FSA structure increases the likelihood that consumer protection goals will be advanced on a more cost-effective basis.

To make the preceding points slightly more concrete, compare the U.S. approach to the regulation of depository institutions to that of the FSA's. While the United States does have some specialized regulations for large financial conglomerates, it generally organizes its regulatory structures by industry sector and imposes mandatory on-site examinations of depository institutions on a regular basis, regardless of whether the depository institutions in question impose any substantial threat to market integrity. A variety of factors explain this system of comprehensive examination—the exposure of both the FDIC and uninsured depositors to losses is undoubtedly an important consideration. But also, I would argue, U.S. financial regulatory authorities are not constrained by a governmental mandate of the sort made explicit in the FSA—that supervisory initiative, particularly in the area of consumer protection, should be imposed only when cost-effective. Rather their tendency is to favor equal treatment in the regulation of financial institutions, regardless of the risks particular institutions impose on market integrity or the efficacy of regulation from an economic perspective, and to keep financial failures to a minimum.<sup>33</sup>

### **Intensity of Financial Regulation**

In speculating as to the reasons why British financial regulation was consolidated into a unified regulatory agency whereas nothing remotely comparable has occurred in the United States, I would propose as a further factor differences in regulatory intensity between the two countries in the area of financial regulation. To a certain degree, this difference is a function of the relatively broader goals of U.S. financial regulation that I recounted in the preceding section. After all, in seeking to advance more social functions, U.S. financial regulators inevitably require more staffing and larger budgets. Moreover, certain of the regulatory goals in each country contribute to differences in levels of regulatory intensity. The British requirement that cost efficiency factor into all regulatory initiatives tends to constrain the level of regulatory intensity in that jurisdiction, where the U.S. predilection for divided governmental authority tends to produce overlapping jurisdictions and larger overall regulatory budgets.<sup>34</sup>

Whatever the explanation for differences in regulatory intensity, their existence offers an independent factor in explaining why the United States has not moved to a system of regulatory consolidation found in the United Kingdom and elsewhere around the world. The size and intensity of U.S. financial services regulation—both in absolute and adjusted terms—is exceptional. The substantial differences in regulatory intensity between the two jurisdictions also raises fascinating (and extremely difficult) normative questions about whether both countries are maintaining appropriate levels of regulatory intensity or whether one of the countries is operating at a

level of intensity that is substantially suboptimal. Aside from noting their intrinsic importance, I will leave these issues to another day.

The data presented in this section comes from several sources: partially my own research, partially from data that the FSA itself compiles each year in its annual reports, and partially from research conducted under my supervision by students at Harvard Law School. I first compare regulatory staffing and budget levels for U.S. and UK financial authorities at the turn of the millennium, as the FSA was being established. Next I offer an expanded data set offering comparable data about these two countries and several other jurisdictions. I then present some additional, more detailed data about securities enforcement efforts in both jurisdictions from 1999 to 2001. The section ends with some tentative conclusions and suggestions for further research.

### Overall Regulatory Budgets and Staffing Levels

An initial and useful point of departure is a review of the overall staffing levels in both jurisdictions. For the United Kingdom, this task is fairly straightforward as the country's regulatory functions are now largely centralized in the FSA; for the United States, however, the undertaking is considerably more substantial as our system of regulatory oversight remains highly fragmented. I therefore begin this section with a quick review of my own estimates of U.S. regulatory budgets and staffing levels in the 1998–2000 period and then compare them to the levels of staffing reported for the FSA in its 2000/2001 *Annual Report*.

My estimates for U.S. regulatory budgets and staffing levels are presented in Table 2.1 and represent data compiled during the 1998 to 2000 time period, roughly contemporaneous to the enactment of Gramm-Leach-Bliley and the establishment of the FSA. As summarized in the table, personnel and annual expenditures are divided into the financial subsectors of depository institutions (including banks, thrifts, and credit unions), insurance companies, the securities industry, the futures industry, and

**Table 2.1.** Summary of annual U.S. regulatory costs  
(1998–2000 data—partial)

<i>Sector</i>	<i>Personnel</i>	<i>Annual expenditures</i>	<i>Annual expenses/ personnel</i>
Depository institutions	22,175	\$2,751,089,581	\$124,064
Insurance companies	11,817	\$738,000,000	\$62,452
Securities industry	4,889	\$644,900,000	\$131,908
Futures industry	556	\$62,761,000	\$112,879
Pensions & benefits	2,285	\$331,147,000	\$144,922
<b>Total</b>	<b>41,722</b>	<b>\$4,527,897,581</b>	<b>\$108,526</b>

pension and benefits. The table is denominated partial because data on certain elements of the U.S. financial regulatory structure are not available—notably data about budgets and personnel for state securities regulators.<sup>35</sup>

The data presented in Table 2.1 is striking in several respects. First is the absolute size of the country's financial oversight efforts: nearly 42,000 employees and an annual budget in excess of \$4.5 billion dollars. Second is the relatively large share of both overall budgets and personnel the U.S. allocates to the regulation of depository institutions: more than 53 percent of total personnel and nearly 61 percent of budgetary resources. A third point of interest is the variation in the ratio of annual expenditures to personnel in the various sectors of the financial services industry. The average expenditure levels per employee in the insurance industry (\$62,452) is dramatically lower than that of other subsectors. While costs of operation may be lower for insurance regulators, as they are located throughout the country and not concentrated in more expensive urban centers such as Washington and New York City, one might reasonably infer that some of the variation reflects differences in expertise and training. In contrast, annual expenditures for personnel regulating the securities industry (\$131,908) and pensions and benefits (\$144,922) tend to be higher.

Table 2.2 presents roughly comparable data for the Financial Services Authority and is drawn from the FSA's 2000/2001 *Annual Report*.<sup>36</sup> In some areas, there are similarities between the FSA's levels of expenditures and those presented for U.S. regulatory agencies in Table 2.1. In both countries, resources are distributed across industry subsectors, and the ratio of annual expenditures to personnel in the UK (\$119,349) is similar to total annual expenditures to total personnel in the United States (\$108,526).<sup>37</sup> On balance, however, the differences between Table 2.2 and Table 2.1 are more striking than the similarities. Note first the difference in the allocation of resources. Whereas more than half of U.S. regulatory personnel and budgets were allocated to depository institutions, the FSA allocates over 60 percent of its budget to the securities industry and only slightly more than 25 percent to depository institutions.<sup>38</sup> A number of factors undoubtedly contribute to the smaller percentage of budgetary resources allocated to depository institutions in the United States—notably, the very high number of depository institutions that still operate in the United States and the balkanized system of banking regulation that we maintain—but the resulting difference in the level of budgetary expenditures remains nonetheless noteworthy.

For current purposes, an even more important difference between the regulatory expenditures and personnel levels of the FSA and those of the United States is the absolute difference in scale. Total annual expenditures on financial regulation in the United States during 1998–2000 were in excess of \$4.5 billion, or 13.7 times the annual expenditures of the FSA pre-

sented in Table 2.2. Personnel levels of the United States (41,722) were more than fifteen times higher than those of the FSA (2,765). These huge differences in regulatory scale offer, I think, an independent reason why consolidation of the sort accomplished in the FMSA for the United Kingdom was never even discussed in the period leading up to the passage of the Gramm-Leach-Bliley Act.

In pondering the different levels of regulatory expenditure and personnel noted in the previous paragraph, one must recognize that these multiples do not simply reflect differences in the size of the two economies in question. In 2003, the U.S. GDP was 6.8 times the UK GDP.<sup>39</sup> The U.S. 2000 population was 4.6 times the UK population.<sup>40</sup> Nor is the difference simply a reflection of financial markets. As reported in the FSA 2000/2001 *Annual Report*, U.S. banking assets were only 2.2 times UK banking assets and U.S. equity market capitalization was only 5.8 times UK equity market

**Table 2.2.** FSA annual budget and personnel  
(Data from FSA 2000–2001 Annual Report)

	<i>Annual expenditures (000s)</i>	<i>Personnel</i>
<b>Total depository institutions</b>	<b>\$ 91,500</b>	<b>n.a.</b>
Credit institutions	\$ 82,500	
Credit unions	\$ 1,500	
Mortgages	\$ 7,500	
<b>Total insurance companies (life, pension, &amp; nonlife)</b>	<b>\$ 22,500</b>	<b>n.a.</b>
<b>Total securities industry</b>	<b>\$216,000</b>	<b>n.a.</b>
Securities firms	\$ 28,500	
Exchanges	\$ 6,000	
Capital markets	\$ 6,000	
Listings	\$ 16,500	
Collective investments	\$ 27,000	
Financial advisors	\$ 84,000	
Ombudsman & compensation scheme	\$ 48,000	
<b>Grand total</b>	<b>\$330,000</b>	<b>2,765</b>



capitalization.<sup>41</sup> None of these ratios approaches the ratios of regulatory expenditures and personnel levels revealed in Tables 2.1 and 2.2. Accordingly, even if one normalized annual expenditures for the size of the economy or capital markets, substantial differences would remain.

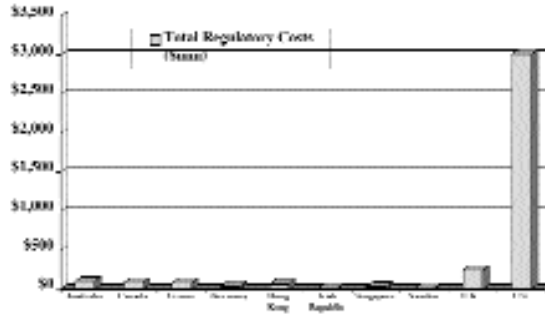
The relatively higher levels of regulatory costs and personnel levels for British authorities is consistent with the hypothesis advanced above that the mission of UK financial regulators is more narrowly constrained than the mission of their U.S. counterparts. That these differences persist even after adjusting for relative size of the two countries' economies and financial markets is all the more striking when one considers that economies of scale might be expected to lower the size-adjusted costs of U.S. financial regulation.

#### **Expanded Set of Comparative Data from FSA 2002/2003 *Annual Report***

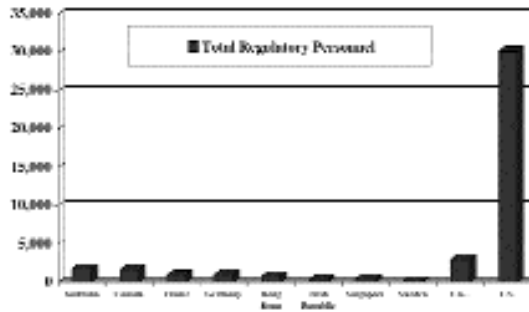
To confirm that the data presented above is not a statistical anomaly peculiar to a period when the FSA was just getting started and the pound sterling was relatively weak compared to the U.S. dollar, I have also examined data presented in the FSA's 2002/2003 *Annual Report*, which includes more recent information on FSA budget and staffing levels as well as comparable data for a number of other jurisdictions, including the United States.<sup>42</sup> With respect to all of the comparison and contrast noted above, the later compilation of data confirms the points I have made about differences between UK and U.S. regulatory intensity a few years earlier. But this expanded data set is also illuminating in that it suggests how the regulatory intensity of UK and U.S. financial regulation compares with regulatory counterparts around the world.

Consider first total financial regulatory budgets and personnel levels for the ten jurisdictions on which the FSA collects data (see Figures 2.2 and 2.3). By both measures, U.S. enforcement budgets and staffing levels overshadow not only those of the United Kingdom but also of all other jurisdictions covered. (Indeed, when one looks at the United Kingdom's regulatory intensity in this comparison set, one sees that if one puts the United States to one side, the absolute level of regulatory effort in the United Kingdom is much higher than that of the other jurisdictions reporting, thus offering some support for the conventional wisdom that the Americans and British have much in common in this area.)

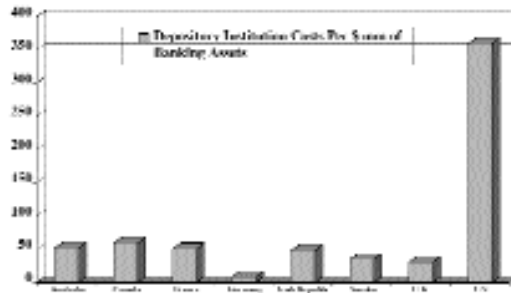
As before, the differences in regulatory intensity hold up even when one makes adjustments for the size of the financial services industry in eight major jurisdictions.<sup>43</sup> To illustrate this point, I have presented in Figures 2.4 through 2.6 the FSA's estimates of regulatory budgets in the principal subsectors of the financial services industry (depository institutions, insurance companies, and securities firms) adjusted for proxies for the size of each subsector: banking assets in the case of depository institutions, insurance premia in the case of insurance companies, and equity market



**Figure 2.2.** Total costs of financial regulation in selected jurisdictions  
 Source: FSA 2002/2003 Annual Report Appendix 8, at 205–06.



**Figure 2.3.** Total financial regulator personnel in selected jurisdictions  
 Source: FSA 2002/2003 Annual Report Appendix 8, at 205–06.



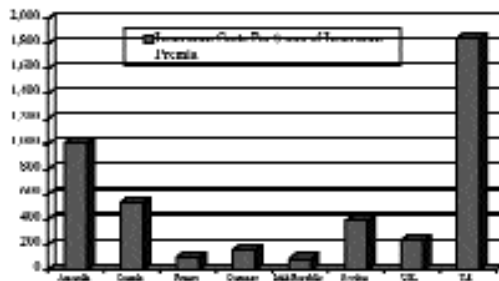
**Figure 2.4.** Total cost of depository institution regulation adjusted for banking assets  
 Source: FSA 2002/2003 Annual Report Appendix 8, at 205–06.

capitalization in the case of securities firms. Undoubtedly there are limitations in the quality and comparability of the data upon which the figures are based, but the broad consistency of the evidence is strongly supportive of several propositions.

First, with respect to both depository institution (Figures 2.2 and 2.4) and insurance company (Figure 2.5) regulation, the United States outstrips the United Kingdom and, for that matter, all of the other major jurisdictions presented. Compared to the other jurisdictions surveyed, the intensity of UK regulation does not appear to be especially high, being at the lower end of the comparison set for depository institution regulation and in the middle for insurance regulation. Where the relative intensity of the UK regulation rivals U.S. intensity is in the field of securities regulation (Figure 2.6), reflecting the fact noted earlier that most UK financial regulatory resources are deployed to the securities field. Two other common law jurisdictions also have very high relative levels of securities regulation—Australia and Canada—both actually outstripping the United States when adjusted for market capitalization.<sup>44</sup> The three major civil law jurisdictions presented in Figure 2.6—France, Germany, and Sweden—all show much lower levels of intensity for securities market regulation.

In an effort to summarize the foregoing data on financial regulatory intensity, Figure 2.7 presents total financial regulatory costs per billion dollars of GDP. Again, the United States leads the way with substantially higher adjusted regulatory intensity. The United Kingdom slips into third place by this measure, just behind Australia (buoyed by its relatively high intensity supervision in the securities field.) The three civil code jurisdictions—France, Germany, and Sweden—again fall to the bottom of the rankings of intensity, with the two other common law jurisdictions (Canada and the Irish Republic) occupying the middle terrain.

In sum, the comparative data on regulatory costs presented in the FSA's 2002/2003 *Annual Report* is consistent with my claim that regulatory intensity (as well as absolute levels of regulatory effort) are higher in the



**Figure 2.5.** Total financial regulator personnel in selected jurisdictions  
*Source:* FSA 2002/2003 Annual Report Appendix 8, at 205–06.

United States than in the United Kingdom. But the data also indicate that measured against a broader set of international comparison, the United Kingdom is at the upper end of most measures of regulatory intensity and consistently above the measure of regulatory intensity in the leading civil law countries surveyed.

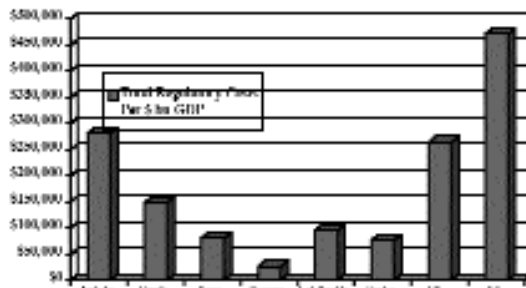
### Evidence of Comparative Enforcement Intensity

Another approach to regulatory intensity is to consider the outputs of regulatory oversight rather than inputs, such as the budgets and personnel levels considered above. In this spirit, several students of mine at Harvard Law School have recently undertaken comparative studies of securities enforcement efforts in various jurisdictions, including the United States and the United Kingdom.<sup>45</sup> While the data in these studies should also be regarded as preliminary, the results are both striking and consistent with my claim that there are substantial differences in regulatory intensity between the United States and the United Kingdom, even in the field of



**Figure 2.6.** Total costs of securities regulation adjusted for equity market capitalization

Source: FSA 2002/2003 Annual Report Appendix 8, at 205–06.



**Figure 2.7.** Total financial regulator personnel in selected jurisdictions

Source: FSA 2002/2003 Annual Report Appendix 8, at 205–06.

securities regulation where regulatory expenditures are not substantially different when adjusted for market capitalization.

A good example is the work of Joseph Martin (HLS '02) on overall securities enforcement levels. Figure 2.8 summarizes Martin's findings with respect to average annual securities enforcement actions for the United Kingdom and the United States. Data for the United Kingdom is first presented in terms of actual enforcement actions and then adjusted to reflect the fact that the U.S. capital markets are larger than UK markets.<sup>46</sup> Aside from the area of warnings—where there is no ready U.S. analog—United Kingdom sanction levels are lower than those of the United States. Only in the area of criminal sanctions is the UK system roughly comparable. In terms of total actions, suspensions and expulsions, and censures, U.S. enforcement efforts outstrip United Kingdom actions by large multiples, even after adjusting for relative market size.

Large differentials are also apparent in the area of monetary penalties, although this aspect of Martin's analysis requires additional explanation. In the United States, there are two major sources of monetary sanctions for securities law violations: public enforcement action (which Martin estimates to be imposed at an average annual rate of \$770 million during the period in question) and securities litigation, both settled proceedings and cases that go to trial or other forms of dispute resolution (averaging slightly over \$4 billion a year). In the United Kingdom, Martin reports that monetary sanctions are principally imposed to regulatory actions, and while these sanction levels on an adjusted basis are not wholly out of line with U.S. public sanctions, the overall level of securities sanctions in the United

	U.K. Actual	U.K. Adjusted	U.S.
<b>Total Actions</b>	758	3,319	10,641
<b>Total Monetary Penalty</b>	\$103 million	\$449 million	\$4,804 million - \$4,034 million private \$ 770 million public
<b>Suspensions &amp; Expulsions</b>	47	206	2313
<b>Censures</b>	14	63	1207
<b>Warnings</b>	128	560	0
<b>Total Prison (months)</b>	282	1236	1661

**Figure 2.8.** Annual U.S. vs. UK enforcement, 1997–2001

Source: Martin, Comparative Enforcement of Securities Laws (Apr. 2002)

Kingdom falls far short of those in the United States once one adds in sanctions on private litigation. (Note that the data in this analysis predates the Enron scandal and associated enforcement proceedings over the past few years and thus substantially understates differences in enforcement that one would likely observe if this analysis were updated.)

In sum, the level of regulatory intensity in the United Kingdom appears to be substantially lower than that of the United States, both in absolute and adjusted terms. Numerous factors may contribute to this difference. As I have suggested above, different and generally more modest regulatory goals in the United Kingdom as compared to the United States likely explain a portion of this lower level of regulatory intensity. Other factors—differences in the composition of the financial services industry in the two jurisdictions as well as the lawfulness of market participants in the two countries—may also explain some of the difference in regulatory intensity. For current purposes, I make only the modest claim that differences in regulatory intensity offer another reason why British regulators were able to consolidate much of the financial regulatory system in the late 1990s when U.S. counterparts made no similar efforts. I leave for another day the more intriguing and difficult question of whether the substantial differences in regulatory intensity that separate the United States from not just the United Kingdom but most other industrialized nations might suggest substantial misallocation of regulatory resources and enforcement efforts in some major financial markets.

## Notes

*Author's note:* I would like to express my thanks for financial support from the John M. Olin Center for Law, Economics and Business. I also benefited from valuable research assistance from Cameron Half, Duncan Herrington, Kyong Lee, Joseph Martin, and Yannis Avgerinos, whose research into British regulatory objectives was particularly useful. I am also grateful to Professor Sung-In Jun for his insightful commentary, which has raised a number of important issues that I hope to address in future writings on regulatory intensity.

1. See Raphael La. Porta et al., "Law and Finance," *Journal of Political Economy* (December 1998).
2. In addition to work prepared for this conference, good background on the evolution of the Financial Services Authorities can be found in Eilis Ferran, "Examining the United Kingdom's Experience in Adopting the Single Financial Regulator Model"; Gerard McMeel, "An Overview of United Kingdom Financial Services Regulatory Reform"; and Michael Taylor, "Accountability and Objectives of the FSA." For an illuminating set of articles comparing U.S. and UK regulatory policies, see Heidi Schooner and Michael Taylor's "The United Kingdom and Unit-

- ed States Responses to the Regulatory Challenges of Modern Financial Markets” and “Convergence and Competition: The Case of the Bank Regulation in Britain and the United States.”
3. For a good overview of the Gramm-Leach-Bliley legislation, see Michael P. Malloy, “Banking in the Twenty-First Century.”
  4. See McMeel, page 6 (noting residual supervisory authority of the Council of Lloyd’s, as well as overlapping jurisdictions of Bank of England and separate regulation of occupational pensions outside of the FSA structure).
  5. See Dean Anason, “Financial Council’s Power, Scope, Makeup Criticized,” page 3.
  6. See Malloy, pages 812–813 (describing Gramm-Leach-Bliley provisions calling for establishment of a new National Association of Registered Agents and Brokers).
  7. One plausible explanation for the variation might stem from differences in our national tastes for federalism. Although devolution is on the rise in Britain, our federalism is much stronger and more deeply rooted. However, the regulatory fragmentation in the United States is not just a matter of federalism. Federal oversight of depository institutions is divided among the Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Comptroller of the Currency, and then further subdivided into specialized subagencies for thrifts (the Office of Thrift Supervision) and credit unions (the National Credit Union Administration). Securities and commodities are regulated separately at the federal level; in addition, three different federal agencies share jurisdiction of pension regulation. Plus an assortment of other financial regulatory matters are delegated to a host of other federal agencies: money laundering to the Treasury, mortgage lending to the Department of Housing and Urban Development, and various insurance issues to the Internal Revenue Service. Plus a wide range of self-regulatory agencies and trade groups perform important regulatory or quasiregulatory functions on a national basis.
  8. Efforts to modernize the regulation of financial services in the United States date back to at least the first half of the 1980s, when then vice president George H. W. Bush chaired a study group on the subject.
  9. See, for example, Section 304 of the Gramm-Leach-Bliley Act, 12 15 U.S.C.A. § 6714 (West 2004), specifying that courts review decisions regarding the definition of insurance activities “without unequal deference” to either banking or insurance regulators.
  10. See Ferran.
  11. The only nearly analogous experience in the United States was the role the Securities and Exchange Commission played in the 1930s when it produced a comprehensive study of investment companies that greatly influenced the adoption of the Investment Company Act of 1940 and

- related legislation. See Howell E. Jackson and Edward L. Symons, *The Regulation of Financial Institutions: Cases and Materials* (1999). But in that case, the SEC was already a formally established agency and the initiative involved only an extension of its authority into a new sector of the securities industry.
12. For example, the Clinton administration's extraordinarily modest effort to have Congress authorize the creation of a National Council of Financial Services Regulators was almost immediately attacked on the grounds that the selection of a state insurance commissioner to participate in the council might violate the appointments clause of the U.S. Constitution. See Anason.
  13. For an overview of FSA accountability provisions, see Gwen Bevers, "The Accountability of the Financial Services Authority under the Financial Services and Markets Act 2000."
  14. Outside of the financial services industry, a good example of this tendency was the Clinton administration's early efforts to reform the health care industry. Shortly after the administration released its comprehensive legislative proposal, critics had little difficulty finding numerous details that in isolation seemed illogical or unpalatable.
  15. The emergence of the FSA during this period is very nicely summarized in Michael Foot's paper for this conference.
  16. See section 103(a) of Gramm-Leach-Bliley Act, 12 U.S.C.A. § 1843(k) (2004), establishing procedures for coordination between the Federal Reserve Board and the secretary of the Treasury in defining financial activities.
  17. For an overview of this regulatory cooperation, see II Melanie L. Fein, "Banking and Financial Services."
  18. In the years since the establishment of the FSA, the consolidation of regulatory agencies has itself become an agenda item for legislative reformers in the European Union and around the world. In the recent accession of new members, one structural issue that each new member nation faced was whether or not to adopt a system of consolidated supervision in the course of complying with EU standards of financial supervision. See Karel Lannoo, "The Emerging Regulatory Framework for Banking and Securities Markets in the CEECs." Though not formally a requirement of any EU directive, consolidated supervision is now firmly on the regulatory agenda around the world, thanks no doubt to the perceived success of the model in the United Kingdom and elsewhere. While the trend toward consolidated supervision has not yet become universal, numerous jurisdictions have opted for this model of regulatory reform, particularly in smaller countries where the approach's potential for cost savings seems to have most salience.
  19. See Howell E. Jackson, "Regulation of a Multisector Financial Services Industry: An Exploratory Essay."



20. FSMA, Secs. 2(1) and 2(2).
21. FSA, "A New Regulator for the New Millennium." Although the FSA seeks ways of minimizing the impact of failures on market confidence, it is of the view that achieving a "zero failure" regime is not only impossible but also undesirable, as it would be excessively burdensome for regulated firms and the economy as a whole and would not accord with the statutory objectives and principles.
22. For an analysis of the "information problem" and the FSA's objective to provide financial education, see Patrick Ring, "Education, Advice and the Financial Services Authority's Statutory Objective."
23. FSA, "A New Regulator for the New Millennium," page 7.
24. FSMA, Sec. 225 et seq.
25. According to the FSA, the three main types of financial crime are: (a) money laundering; (b) fraud or dishonesty, including financial e-crime and fraudulent marketing of investments; and (c) criminal market misconduct, including insider dealing. See FSA, "A New Regulator for the New Millennium." page 9.
26. FSMA, Sec. 2(3).
27. In order to assist policy makers when they deal with the principle of competition, the FSA has issued a guide to competition analysis in financial services; see FSA, "Making Policy in the FSA: How to Take Account of Competition."
28. Under the Banking Holding Company Act, for example, the Federal Reserve Board has long been required to consider whether its approval of an acquisition will cause competitive harm. This sort of oversight is quite different from competitive considerations reflected in the FSMA, which seek more to enhance the competitive posture of UK firms and markets in comparison to their foreign competitors. Within U.S. regulatory circles, it is not uncommon for officials to be mindful of competitive harms that new requirements might impose on U.S. firms or markets—consider for example recent debates over the impact of the Sarbanes-Oxley Act on foreign firms—but the advancement of U.S. competitive interests is seldom described as a principal goal of U.S. regulatory policy.
29. See Michael Taylor and Alex Fleming, "Integrated Financial Sector Regulation and Supervision in the Context of EU Accession; Giorgio Di Giorgio, "Financial Market Regulation and Supervision: How Many Peaks for the Euro Area?"; and Jeroen J. M. Kremers et al., "Cross-Sector Supervision: Which Model?"
30. Curiously, in recent organizational reforms the FSA has added a division of High Street firms—that is, companies that provide certain mortgage and insurance services to retail customers—and this division includes a separate authorization department that is outside the Regu-

- latory Processes and Risk Directorate. It is unclear why the FSA departed from its cross-sectoral approach to licensing in this instance.
31. See FSA, "A New Regulator for the New Millennium."
  32. See FSA, "A New Regulator for the New Millennium."
  33. Another example of this phenomenon in the United States is the traditional uniformity of pricing of deposit insurance for small and large banks, notwithstanding substantial differences in risks and costs of failure.
  34. The overall effect of overlapping jurisdictions on regulatory intensity is ambiguous. In certain contexts, overlapping jurisdictions might lead to regulatory competition of the sort that reduces regulatory intensity. Although one cannot discount this possibility out of hand, the data on regulatory intensity in this section casts doubt on the significance of that sort of regulatory competition in this context.
  35. The data underlying this table is to be presented in a separate technical note. In certain areas where regulatory agencies perform multiple functions, I have had to allocate a percentage of budgets and personnel to financial regulatory purposes. One example is the Federal Reserve Board, which provides both central banking and payment systems services as well as regulatory functions. In addition, two of the U.S. agencies responsible for pensions and employee benefits—the Internal Revenue Service and the Department of Labor—conduct many activities that are unrelated to financial services. As mentioned in the text, the table does not include data on state securities commissions; data on the principal securities industry SROs (the NYSE and NASD) are, however, included. Also not included in this table are several agencies that perform relatively modest oversight functions in the financial services industry. These include the Federal Trade Commission and the Department of Housing and Urban Development, which oversees certain elements of the mortgage market as well as certain government sponsored enterprises, such as Fannie Mae and Freddie Mac, which are a form of financial institutions. Because of these omissions, the data presented in Table 2.1 somewhat underestimates the level of financial service regulation in the United States.
  36. See *FSA Annual Report 2000/2001*, Appendix 6, page 81 (available online at <http://www.fsa.>—). The data presented in the *FSA Annual Report* is only roughly comparable because certain regulatory functions in the United Kingdom—most notably oversight of certain employment based pension schemes—are regulated elsewhere. The London Stock Exchange also still engages in a limited amount of regulatory functions not captured in Table 2.2. The *FSA Annual Report* denominates expenditures in pounds sterling; the data in Table 2.2 are presented in U.S. dollars, converted at an exchange rate of 1.5 dollars per pound sterling.

37. The ratio of annual expenditures to personnel for the FSA is not shown in Table 2.2, but it can be derived from the data in that table. To some degree, the fact that FSA expenditure per employee is higher than U.S. expenditure per employee is perhaps surprising, as average wages and GDP per capital are significantly higher in the United States. This difference may be partially attributed to the fact that most FSA employees work in the London area, which has a high cost of living. In addition, the FSA has made more of an effort to match market compensation levels, at least for its more senior employees.
38. Were Table 2.2 expanded to include oversight of other sources of British financial regulation—for example, occupational pension schemes—the ratio of total expenditures allocated to depository institutions would fall further.
39. World Bank estimates of GDP for 2003.
40. See Alan Heston, Robert Summers, and Bettina Aten, *Penn World Table Version 6.1*.
41. See *FSA 2000/2001 Annual Report*, Appendix 5, page 81.
42. See *FSA Annual Report 2002/2003*, Appendix 8 (pounds sterling converted to U.S. dollars at 1.7 dollars to the pound). The FSA's data on U.S. financial regulators is less extensive than my own, but I present their data here in order to maintain—to the extent possible—comparability with other jurisdictions on which the FSA also collected data. As the notes accompanying the FSA cost estimates make clear, comparative surveys of this sort are difficult to undertake, and some of the data is necessarily incomplete and incommensurate across jurisdictions. Accordingly, the data presented in the following pages should be regarded as suggestive rather than definitive. As explained later, I think the overall import of the data is sufficiently clear that one can draw at least preliminary conclusions from it.
43. For purposes of these presentations, I have excluded two jurisdictions presented in earlier figures: Hong Kong and Singapore. Their position as financial service centers distinguishes them from the other jurisdictions. Interestingly, the intensity of their financial oversight as measured in these figures is often quite high—in the area of insurance regulation, it is even higher than that of the United States. While tangential to the subject at hand, the relative intensity of the regulatory efforts of Hong Kong and Singapore warrants further study.
44. The relative intensity of Australian and Canadian securities enforcement likely reflects both the decentralized system of regulation adopted in these two jurisdictions and also their relatively low levels of stock market capitalization.
45. See Joseph Martin, "Comparative Enforcement of Securities Laws" (April 2002). See also Wai-Yin Alice Yu, "The Enforcement of Securities Laws in East Asia: A Comparative Analysis of Hong Kong, Singapore,

South Korea and Taiwan from 1998 to 2002" (April 29, 2003); and Duncan Herrington, "Insider Trading and Market Performance" (May 3, 2004).

46. The adjustments in Martin's paper are based on trading volumes as opposed to stock market capitalization.

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# Comments

Choong-Kee Lee

This paper deals with the UK reform of financial regulations from a wide perspective, with strong reference to the consolidation of regulators. The paper moves easily from explaining historical perspectives of the UK financial regulation to a restrained but telling indication of where the UK reform should go further. The author particularly points out the political and financial situation when the new Labour government came to power in 1997 and the following process of the consolidation, through which the new regulator was created. The author argues that the UK regulatory reform of consolidation is natural and to be justified from all these surrounding circumstances.

The core part of this paper deals with the legal and managerial challenges that have been apparent in the first six years of the FSA's life, in particular in the two and half years in which it has had full power. After explaining the six statutory arrangements for the FSA under the Financial Services and Markets Act of 2000, the author indicates and analyzes the main challenges that the FSA had to and will have to address, which in his view have potential importance for other countries going down a similar route.

The first challenge raised is that "too many organizations were to be put together at one time, and furthermore no one body was going to *come out on top* in the new FSA." According to the author, the fact that there is no dominant body within the predecessor organizations in part derived from the diversity of the new top management and their promise to take best features of the predecessor bodies, and in the end that odd fact was beneficial to the parties involved, resolving the first challenge. I am very sympathetic with the author's argument.

Then the author points out the second challenge resulting from the fact that "various regulatory disciplines had grown up separately among different regulators who had different visions about regulation and were used to operating different regulatory techniques." Here the author's recounting of the various examples of conflicts between different lines of regulatory thinking (such as prudential regulation versus COB regulation, formal regulation versus informal regulation, etc.) is compelling. Then the author convincingly proposes the answer to the conflict in that the way forward is to cement a *new* culture and to tackle the huge range of regulatory issues by creating a new "language" with which the new regulator can describe, monitor, and mitigate various regulatory issues and risks. This paper explains superbly how the UK concept of risk-based regulation

has come up, reflecting the author's close understanding of the regulatory process as well as his deep knowledge of financial scandals where the risks were not properly managed.

The third challenge that the author talks about is the efficacy of staffing and financing an effective regulator—in other words, “how relatively few and small regulators had and have to face an ever-growing increase in complexity in the markets and products that they regulate.” The author argues that the previous segmented regulators faced very difficult staffing/resource decisions, but on balance the creation of the FSA has helped answer these questions through economies of scale. Another option for efficient regulation is the use of cost-benefit analysis (CBA). According to the author, although the CBA is still a blunt tool—because the concept of cost or benefits is still vague—the CBA does give transparency to what can be estimated and what is assertion and allow the affected or the opponent the chance to challenge the policy decisions. On the other hand, the author does not believe the efficacy of the “compare and contrast approach,” although the approach is adopted and used in the FSA. He fears that there is no reliable short-term measure of efficacy of the regulator, even of the efficacy of individual policies. I am generally in agreement with these views.

The fourth challenge he identifies is “how to improve the financial capability of market participants.” The author believes that regulators should try to reduce their role in protecting the financial system, leaving it up to market forces to do as much of the job as possible. But according to him, this will be possible if and only if (a) adequate information is disclosed on which market participants can make decisions, and (b) market participants have the competence to reach rational judgements. As the author points out, the need for global institutions' enhanced disclosure for professional counterparties is set out by the Basel Committee in its proposal for Pillar 3 of the new Basel 2 proposals. For retail consumers, the problem is more acute. Levels of financial sophistication among the public are very low here in Korea as well. As the author points out, in the UK, financial capability initiative has been taken, backed by the FSA, which is going to target specific groups across the age spectrum from schoolchildren to the elderly. The author argues that such an initiative has been made easier by the creation of the FSA because of economies of scale. The consolidated FSA may also be able to look across the whole field of retail financial advice. This is an important point that Korean regulators should look at in educating the public.

Finally, the author raises as the last challenge the necessity of global regulation and the international regulatory cooperation to achieve it. According to him, the FSA has to maintain a relationship with 200 regulators and exchanges outside the UK in respect of a *single* group like HSBC. Furthermore, the FSA is a member of well over 150 international regulato-

ry committees, and the integration of the EU makes such membership even increasing. Likewise, with the proliferation of codes of good practice that have increasing importance in international forums, the national regulators are more and more concerned with such international initiatives. The author's point is that unification of the domestic regulatory structure has enabled the collective resources to go much further than if they are separate bodies, which is a convincing argument.

In closing, the author comments on the Korean financial regulators from his UK experience. In the Korean context, the author emphasizes the issue of improving corporate governance, perhaps because, in his view, the Korean regulatory regime is still in transition. And then the author identifies four important issues: (1) The current Korean structure of financial regulation appears complex and potentially unwieldy, particularly the strange split between the Financial Supervisory Commission (FSC), the Financial Supervisory Service (FSS), and the Securities and Futures Commission (SFC), and the significant involvement of other bodies, including the Ministry of Finance and Economy (MOFE), the Bank of Korea (BOK), and the Korean Deposit Insurance Corporation (KDIC) in financial regulation; (2) these complex arrangements seem to contribute to uncertainty over the independence of the regulators (FSC, FSS and SFC) from the MOFE; (3) the quantity and quality of regulatory rules issued and the extent to which rules have been applied equally across firms; and (4) the possibility of conflict between the FSC's prudential responsibilities and those for restructuring in the corporate and financial sectors. As a whole, I agree with the points the author raises and would like to comment on these issues.

## **Issue of Corporate Governance of Regulators**

### **The Pool of Eligible Candidates**

As the author points out, improving corporate governance requires the creation of a body of professionally competent and independent-minded directors for public companies, but this could not be engineered overnight. This point is very relevant in the Korean context. Most of the main Korean reforms have put emphasis on the *structure* rather than *conduct* or *performance*, and such structural changes have often been carried out without the necessary pool of competent and independent candidates. A typical example is the statutory requirement of a certain number of outside directors in listed and financial companies. The same logic may be applicable to the regulators. If a governance system adopted in a regulator is too complex, it may require a large-scale recruitment for high-level positions. However, if the positions are filled by persons lacking competence, the governance system will not work properly and may not produce the antic-



ipated regulatory culture or performance. Instead, jobs might be offered to retired high-fliers, in the end raising regulatory costs.

### **Board Structure**

As to the board structure of regulators, the author offers a defense of the British choice—an early FSA-style, top executive team—after comparing this and the SEC-style commissioners system. The author points out that so new and complex was the FSA and so important was the new culture created, the UK choice was the inevitable and right one. I am sympathetic with the author's argument. In particular, I want to emphasize two justifying factors for the UK choice: (1) At that time, various regulatory disciplines had already grown up separately among different regulators, and (2) it is in a transition period in which the way forward was to cement a new culture by creating new "language."

An interesting question is whether the Korean regulators need such strong leadership or the SEC style of commissioners. The answer seems to depend on (1) whether various regulatory disciplines had grown up within the sectoral regulatory divisions and (2) whether Korean regulators are well settled or still in a transition period. It is arguable that since the current structure of financial regulation is still complex and regulatory powers are oddly dispersed between the FSC and the FSS, the system still needs reform, and thus we are in a transition period. That fact may justify the presence of strong leadership in the Korean regulators. But it is to be emphasized that the leadership is for creating a new regulatory culture rather than for efficiency of the regulatory operation.

### **Does the Current Regulatory Structure Need Reform?**

Although a bit ambiguous, it is arguable that there is one financial policy maker and one frontline regulator in Korea. While the Financial Policy Division in the MOFE is in charge of setting up the institutional structure of regulation and responsible for the legislation it governs, the real regulatory activities are undertaken by the FSC and the FSS. On the one hand, the latter two bodies work together, and on the other each body acts separately, and thus it is possible to say Korea has either one or two frontline regulators. The difference is that the FSC is a government committee and the FSS is a nongovernmental body set up as a special corporate entity. The two bodies, however, are linked together through the same head of both organizations.

This odd structural shape resulted from the argument that enforcement powers, particularly the power of sanction, can only be exercised by governmental bodies. Thus, originally the FSC was envisioned as a conduit to provide governmental connection and formed of the committee members and a handful of government officials only. But the outbreak of the foreign exchange crisis in 1997 changed this landscape completely. The

crisis required a strong governmental body responsible for restructuring the financial and corporate sectors urgently, and the FSC was thought the best suitable candidate. And then the FSC was filled with a number of officials from various ministries—particularly the Ministry of Finance and Economy, which has now overgrown to form a big secretariat organization within the FSC.

The efficacy of the current structure has often been doubted whenever a financial scandal has broken out. The most recent occasion in which the issue has been raised is the debacle on the card company failures, which has produced 4 million defaulters and led to large-scale card company bailouts. The Board of Audit and Inspection has declared that the card company crisis resulted from wrong policy decisions and failure of cooperation among the MOFE, the FSC, and the FSS. The board points out among other things that (1) with the cooperation of the FSC, the MOFE made a policy decision to stimulate the economy by encouraging the public to use their credit cards and extend their credit lines; and (2) afterwards the FSC and the FSS requested the MOFE to reduce the cash service lines through legislation, but the request was rejected by the MOFE, which preferred the recovery of public spending. The board diagnosed that the failure is partly due to the MOFE's conflicting responsibilities—that is, the responsibility for economic policy and that for financial legislation. Whenever the two responsibilities conflict, the MOFE tended to sacrifice the latter. The board suggested that the legislative power of the MOFE be transferred to the FSC.

Many commentators agree with the board's suggestion of depriving the MOFE of legislative powers, but they differ in their opinion about "to whom the power is to be vested." They prefer strengthening of the private body, FSS, rather than the governmental body, FSC. I am inclined to agree with many commentators. But, this in turn will be possible if and only if the FSS merges with the FSC and is filled with efficient personnel with special expertise. The most important thing at this stage is therefore to cement *new* culture through *cross-fertilization* of ideas, not only between sectoral divisions in the FSS but between the public servant-filled FSC and the private staff-filled FSS. It will be more desirable to encourage staff to move around between private and public sectors generally, creating new market-friendly cultures.

### **Conflicting Responsibilities of the Regulators**

As the responsibilities in the MOFE as the economic policy maker and the financial policy maker conflict, so do the responsibilities in the FSC as the prudential regulator and the restructuring authority. As the author points out, there must have been real efficiencies for the FSC in bringing together both responsibilities at the height of the crisis, and it is common for the FSC to have views on and play a part in the restructuring of the financial

sector. But now that things are more normal, there must be an argument for greater separation of the activities of regulation and restructuring. This matter is closely related to the future of the secretariat in the FSC. I personally prefer that the restructuring functions of the FSC be transferred to the KDIC and the MOFE. But even in this case, the difficult questions of whether and to what extent the KDIC is to be independent from the MOFE influence have to be answered.

### **The Status of the SFC and the Bank of Korea**

The Securities and Futures Commission is a statutory subcommittee “within” the FSC and in charge of more specialized securities matters. It seems therefore not irrational to retain both the FSC and the SFC, as long as their roles are well defined.

Under the current regime, it is least likely for the Bank of Korea to interfere in financial regulation. The only statutory power allowed the bank is to ask the FSS either to investigate financial institutions on its behalf or to coinvestigate the institutions with the bank staffs. In practice, the FSS seems to be less willing to comply with the request.

### **Questions**

As the author points out, the consolidation of different regulators is a big issue, and that is true in Korea. But the most pressing issue in Korea is currently the consolidation of over twenty institutional statutes. I'd like to know how the process of legislative consolidation proceeded in the UK. In particular, where there is inconsistency between different institutional acts, the difficult question of “selection for default rules” is emerging, and once a selection is made the reason for such selection needs to be explained. Is there any guidance for the selection of default rules in the preparation of the FSMA? In Korea, for example, in respect of the COB regulation, we are adopting the “strongest rule” approach with exemptions: The COB rules in securities regulation are to be adopted as the default rules, which will also be applied to banks and insurance firms, but with many exemptions.

But in some cases, the exemption is not to be allowed from a fairness point of view, which may trigger resistance from those who had been regulated with a softer touch. As the author points out, the UK insurance industry had been regulated weakly, where particular legal power had either not been used or had been interpreted in a narrow way. Is there any resistance from the insurance industry to the introduction of beefed-up enforcement by the new legislation?

The introduction of default rules for prudential regulation is a more difficult issue, given that the prudential method used in banking and securities regulation is different from that used in insurance regulation. I'd like to know how the FSA is developing a common default rule for prudential regulation that will be applicable to all three areas comfortably.

In Korea, *chaebol* issues are always hotly debated. One issue is the separation of the financial capital from the *chaebol* capital. In this sense, the control regime in Part XII in the FSMA deriving from the old Banking Act is relevant. I'd like to know whether there is a real case of objections to the acquisition of bank shares or a case of ordering disposition of existing shareholdings on the ground that the acquirer or the existing shareholder is not fit and proper, or that the acquisition or the existing shareholding is against the consumer benefits.

# Comments

Sung-In Jun

## Summary of the Essay

Professor Jackson's essay tries to explain why the organizational forms of financial supervisory bodies of the United States and the United Kingdom are so different, given that they both share the so-called common law tradition. The U.S. financial regulatory system is notorious for its decentralized and overlapped features, whereas the UK system has been successfully consolidated from its equally diversified legacy.

Professor Jackson first identifies the much-discussed "political economy" aspects of financial reforms under the headings of Parliamentary System of Government, Acquiescence of Muddling Through, the Role of European Institutions, and the Local Political Considerations. Some aspects are quite intuitive and hence have been fairly thoroughly discussed by others, while the Role of European Institutions is rather a newcomer in the debate.

Professor Jackson then proceeds to seek other factors that can shed some light on the observed system differences. The factors newly identified are differences in regulatory objectives and differences in regulatory intensity. Professor Jackson argues that in the UK, the main objective of financial regulation is market stability, and other objectives such as protecting depositors and investors are pursued only after cost calculations justify it. In the United States, Professor Jackson argues, the protection of depositors and investors is the most important objective, which is usually pursued in the absence of cost calculations. It is argued that the differences in the regulatory objectives contribute to the divergence of structural differences in the sense that the emphasis on market integrity facilitated system consolidation in the UK, while consumer protection in various areas of financial transaction made the consolidation difficult in the United States.

In the latter part of the essay, Professor Jackson presents some numerical evidence on the differences in the regulatory intensity between the two countries and also among other "civil law" countries. The data shows that the regulatory intensity of the United States, measured by the size of the budget or by the numbers of personnel in absolute or normalized terms, is much higher than that of the UK. Also, cross-sectional comparison shows that in general, common law countries put considerably more resources on financial regulation than civil law countries.

## Questions and Comments

Professor Jackson's essay is very informative and carefully written, well balanced between institutional and empirical aspects of the issue. Several questions and comments are in order.

### **The Relevance of the "Jackson Hypothesis"**

The essay proposes an important hypothesis that "as the degree of regulatory intensity increases, consolidation of regulatory functions becomes more cumbersome and difficult to achieve." The hypothesis appears to make sense in that financial regulatory bodies constrained by the cost-sensitive mandate tend to exhibit low regulatory intensity, and one might also agree on consolidation if there are economies of scale or scope. In this case, we do observe low intensity coupled with consolidated supervision, both driven by cost sensitiveness. It is not clear, however, why low regulatory intensity itself tends to cause consolidation. At least in theory, one may think of a situation where a much fragmented regulatory system run by unskilled and poorly motivated personnel, whose main interests lie elsewhere for good or for bad, results in low regulatory intensity. In this case, consolidating the regulatory bodies and putting skilled and highly motivated specialists into the system may dramatically improve regulatory intensity.<sup>1</sup>

Empirical evidence on this seems to be mixed. It is true that the U.S. system shows high regulatory intensity and highly fragmented institutions, as predicted. The UK, which boasts of relatively high regulatory intensity compared to other countries after the appropriate normalization, has a thoroughly consolidated system. Australia, whose intensity is as high as or close to the UK depending on the normalization, has a bifurcated system, the familiar "twin peaks." It is fair to say that more information is needed to accept or reject the hypothesis.

### **Regulatory Intensity vs. Regulatory Efficiency**

In the latter part of the essay, Professor Jackson performs and cites several empirical studies in order to measure the size of regulatory intensity among selected countries, including the United States and the UK. Empirical works are mostly concentrated on measuring the size of input—for example, the size of budget and the number of personnel, even if output measures such as enforcement figures are also presented.<sup>2</sup>

Without the knowledge or the assumption of regulatory efficiency, the concept of regulatory intensity does not carry us too far. First, without assumption of efficiency, measuring the size of input does not automatically give us the degree of regulatory intensity, since input can be wasted away. It is true that the output measures such as enforcement figures presented in Figure 2.8 indeed give us the extent of regulatory intensity. However, it has to be emphasized that output measures for intensity are them-

selves input measures for efficiency, whose output measures are typically (the lack of) the frequency of financial scandals, the cost of bailing out failing financial institutions, or foregone wealth of investors due to security fraud.<sup>3</sup> In other words, regulatory efficiency means how successful the system is to achieve whatever policy objectives imposed upon it. In this sense the efficiency concept is a bridge that can connect the empirical analysis of the third section of the essay to the second, where various policy objectives are discussed.

### **The Dilemma of Korea Since 1997**

The case of Korea provides an interesting “side evidence” (meaning evidence lying somewhere between proof and counterexample) to the Jackson Hypothesis and hence is briefly discussed here. Up to 1997, the task of financial supervision was performed by two institutions—the Bank of Korea and the Ministry of Finance—where the former assumed banking supervision and the latter assumed the rest. Usually, the ministry delegated its supervisory power to several public (but nongovernmental) supervisory boards, due to limited resources and manpower. The ministry, however, did use its power from time to time in order to pursue other nonfinancial goals such as government-led business restructuring. So the system was consolidated formally but highly fragmented practically, and it was also plagued by a suboptimal degree of supervision due to lack of incentives.

At the dawn of 1997, the Financial Reform Committee was organized and discussed various ways of consolidating diversified supervisory bodies into one. Even if the committee managed to come up with a proposal, the actual reform movement did not go very far due to fierce opposition by the related parties.<sup>4</sup> It was the foreign currency crisis at the end of 1997 that made the move toward financial reform imperative. Finally, the Financial Supervisory Commission (FSC), as a consolidated financial supervisory body composed of private specialists, began to function as of April 1, 1998.

The financial reform of Korea was partially influenced by the experience of the UK and hence shared some similarities. The consolidated supervisory system is the most prominent example. The fact that the supervision was performed by private specialists is another. Among these two, what is more important and worth noting is the latter. Traditionally, the government used its supervisory power as a handy tool to intervene in the financial market in order to pursue nonfinancial goals. With the introduction of the new system, the channel is blocked—at least partially. As for the importance of consolidation, there is not much to say since functional supervision, which is the very premise of consolidation, in its true meaning has not been introduced yet. The current situation is like many regulatory bodies living together in one big house. This is why there is vir-

tually no retroactive movement against consolidation per se, but endless attack by the Ministry of Finance in order to restore the old regime, where it had a much larger role. The case of Korea shows that sometimes movement toward consolidation has other motives or effects in addition to just extracting economies of scope.

## **Notes**

1. It would be interesting to check what the British system before the consolidation looked like in this regard. Though it may not be true that the supervision, if there was any, was managed by unskilled personnel, the system was indeed fragmented and had some blind spots. Several important financial scandals serve as undeniable evidence for the poor regulatory intensity of the time.
2. See Figure 2.8 of the essay.
3. Having identified both input and output measures, one can easily calculate, at least theoretically, the degree of (or the lack of) regulatory efficiency by calculating the ratio of the economic cost of financial scandals to the size of budget, for example.
4. The Jackson Hypothesis does not seem to apply here since the degree of regulatory intensity was very low before the consolidation, and also there was no mention of cost-sensitive supervision either before or after the consolidation.



### **3. Australia's Regulatory Response to Financial Consolidation in the Context of Globalization**

Berna Collier

#### **Introduction**

This essay provides an overview of Australia's regulatory response to financial consolidation in the context of globalization from the perspective of Australia's corporate and financial services regulator, the Australian Securities and Investments Commission (ASIC).<sup>1</sup> This theme is addressed in three parts. The following provides an introduction to financial consolidation, globalization, and regulatory challenges posed by globalization. The next part examines the history of regulatory reform in Australia, including how the twin peaks of regulation and Australia's streamlined licensing and disclosure regime support financial consolidation. The final part is a survey of trends and policy directions in Australian regulation in the context of the global environment.

#### **Financial Consolidation in the Context of Globalization**

##### **Financial Consolidation**

Financial consolidation is the process where one or more firms, within the umbrella of the financial system (which includes banking, securities, and insurance sectors), either in the same country or across borders, unites or expands to create either a single entity or group of entities under common control. It is a phenomenon that has swept across the world's financial markets and forced governments to reconsider the way regulators are structured. A key result of financial consolidation is market concentration, where fewer but bigger firms control the lion's share of the market. Every country has idiosyncratic forces shaping the way its financial sector consolidates. However, across the world technological developments, globalization, deregulation, consumer demand, and increased competition are having a major impact on market services and products, a result of which is financial consolidation. Alan Cameron, the former chairman of the Australian Securities and Investments Commission, recognized this when he stated, "These forces are blurring traditional boundaries between products, and the boundaries between institutions, leading to the increased rationalization of banks and others in the financial services industry."<sup>2</sup>

Financial consolidation takes place either entirely within a country or across international borders. It can occur in two ways:<sup>3</sup>

1. Intra-industry consolidation: Where two or more firms, engaged in the same function, become one by merger or acquisition—for example, when a bank acquires another bank
2. Cross-industry consolidation: Where firms within the finance sector but with different core functions merge—for example, when a bank purchases an insurance business

Intra-industry consolidation raises different problems for regulators than cross-industry consolidation. Intra-industry consolidation generally attracts the attention of authorities regulating anticompetitive conduct such as the Australian Competition and Consumer Commission (ACCC),<sup>4</sup> and, if the acquirer is international, a foreign investment review authority such as Australia's Foreign Investment Review Board (AFIRB).<sup>5</sup> By way of example, if a foreign bank proposed purchasing a domestic bank, the ACCC would seek to avoid a negative competitive outcome, and the AFIRB would ensure the merger was in the domestic country's interest. These regulatory issues are not new and commonly arise since the deregulation of the financial system.

Cross-industry consolidation has stimulated a dramatic regulatory response. Governments and financial market regulators have had to redesign fragmented frameworks to align their regulators' structure with the markets they regulate. Prior to consolidation, it was common across the world for each individual industry to have its own regulator. For instance, in Korea, the Banking Supervisory Authority regulated the banking sector, while the Non-Bank Supervisory Board, the Insurance Supervisory Board, and the Securities Supervisory Board were responsible for nonbank, insurance, and securities businesses, respectively.<sup>6</sup> In Australia, the Insurance and Superannuation Commission, the Australian Payments System Council, and the former Australian Securities Commission were, prior to the Wallis Report, responsible for regulating insurance, banking, and securities companies, respectively. This industry-based approach regulates along institutional lines. Financial consolidation has forced some governments to reorganize their country's regulatory structure in line with the firms they regulate—that is, away from institutional lines. As Mwenda and Flemming observe, "Why are so many countries restructuring their regulatory organization? Perhaps the most potent reason has been the move to financial conglomerates . . . Countries are seeking more effective modes for effective supervision of financial conglomerates."<sup>7</sup>

Consequently, some countries such as Australia have developed cross-sector regulatory authorities that concentrate on regulatory outcomes or objectives rather than on the institutional sectors they regulate. This latter approach regulates along functional lines.<sup>8</sup>

Financial consolidation creates sophisticated, integrated firms—"financial conglomerates"—that offer a range of financial products that transcend traditional operational distinctions within the financial system.

A financial conglomerate is “any group of companies under common control whose exclusive activities consist of providing significant services in at least two different financial sectors (banking, securities, insurance).”<sup>9</sup> The 1997 Wallis Report recognized the inevitability of financial conglomerates when it stated, “In any event . . . there is no practical way of preventing [financial conglomerates’] future growth . . . the regulatory framework must adapt to them.”<sup>10</sup>

Financial conglomerates are growing quickly and dominating global financial markets. In 2003, the World Bank surveyed fifteen countries and found that the market share of financial conglomerates, operating simultaneously in at least two of the banking, securities, and insurance sectors, had grown rapidly over the last twelve years.<sup>11</sup> Within the banking sector, conglomerates increased their market share from 53 percent in 1990 to 71 percent by the end of 2001. During the same period, conglomerates increased their market share in the securities industry from 54 percent to 63 percent and in the insurance industry from 41 percent to 70 percent. The World Bank survey highlights both the weight and growth of financial conglomerates in a global context.<sup>12</sup>

The four largest banks in Australia, known as the “four pillars,” are financial conglomerates.<sup>13</sup> Financial consolidation has rationalized the way they operate. As well as operating traditional deposit taking and lending businesses, all four banks, to varying degrees, derive large portions of their revenue from both insurance and securities operations. Indeed, what we know as financial conglomerates dominate the entire Australian financial services industry:

- By 1996, Australia’s ten largest financial conglomerates already accounted for almost half of the financial system assets;<sup>14</sup>
- In 1998, financial conglomerates controlled 80 percent of Australia’s financial system assets;<sup>15</sup>
- In 2002, the largest four Australian banks accounted for 67.85 percent of all banking assets;<sup>16</sup> and
- As of September 2003, subsidiaries of Australia’s four largest banks managed 30.8 percent the country’s domestically sourced funds under management.<sup>17</sup>

One of Australia’s largest banks, the Westpac Banking Corporation is an example of an Australian conglomerate that has been involved in cross-industry consolidation. Westpac’s core business is banking. In 2003, while Westpac’s net interest income was A\$4.3 billion, “total noninterest income” added A\$2.9 billion to the company.<sup>18</sup> Westpac holds an Australian financial service license,<sup>19</sup> which permits it to deal in and provide advice about a range of financial products including basic deposit products, derivatives, general insurance products, life insurance products, managed investment schemes,<sup>20</sup> and securities. In 2002, Westpac significantly increased its non-banking business when it purchased BT Financial Group, the Australian

fund management, life, and superannuation business of a U.S. company, Principal Financial Group, for A\$900 million. Including its subsidiaries, Westpac is now Australia's fourth-largest bank,<sup>21</sup> seventh-largest fund manager,<sup>22</sup> and fifth-largest life insurer.<sup>23</sup> It has used cross-industry consolidation to achieve this and also benefited from Australia's regulatory environment that is conducive to this.

As with Westpac, the goal of delivering a diversified product range has precipitated financial consolidation in Australia. As firms restructure their operations to provide a package of services including banking, insurance, and wealth management, traditional institutional distinctions fade away. As Martinez and Rose observe: "Deregulation, liberalization and rapid technological innovation,<sup>24</sup> have allowed financial intermediaries to offer an increasing variety of financial products and services, making the traditional frontiers between banking, securities and insurance sectors blurred."<sup>25</sup>

Financial consolidation—particularly cross-industry consolidation—has led financial corporate conglomerates to dominate the world's financial markets, including Australia's. These companies traverse traditional operational distinctions between banking, insurance, and securities businesses and have leveraged their market position to maximize the value they extract from their clients by providing a "one-stop shop" for all a customer's financial needs. Financial consolidation has forced governments and regulators to reassess regulatory structures in order to keep pace with financial conglomerates; governments have redesigned their regulatory landscape to mirror the firms they regulate. Certain regulatory reforms, such as Australia's new uniform licensing and disclosure regime, have been implemented among other reasons to accommodate the regulatory complexities created by financial consolidation, which have in turn accelerated financial consolidation in Australia.

### **Globalization**

Financial consolidation is a product of globalization. "Globalization" is a ubiquitous term without universal meaning. For the purposes of this essay, "globalization" is considered an economic phenomenon that is characterized by commercial and regulatory interdependence, integration, and interconnectedness between nation-states and corporations. In Australia, globalization is marked by the country's increasing involvement in international institutions that foster regulatory harmonization (such as the International Organization of Securities Commissions) and the rapid growth in the number of transnational financial service providers, dual listings, and cross-border market operations.

Globalization is neither a wholly novel nor modern phenomenon. Pre-modern globalization dates back to the tenth century, when countries developed the capacity to engage in long-distance trade. The key agents of

premodern globalization were political and military empires, world religions, and migratory movements of people. Economic networks were sustained over longer distances than military and political networks, "as the trans-Eurasian and Indian Ocean trades, and the cross-continental Islamic world illustrated."<sup>26</sup> However, the majority of the world's population remained—in economic terms—unaffected by premodern economic globalization.

The phenomenon of globalization gathered pace between the fifteenth and nineteenth centuries. The invention of the corporation as a *persona ficta*, and the birth of the nation-state during this period, provided the necessary impetus for globalization and, ultimately, financial and regulatory consolidation. Momentum gathered with the great trading companies, such as the Dutch and English East India companies, extending trade throughout Asia and Southern Africa. The nation-state usurped regulatory power from the guilds, which were the principal business regulators in the Middle Ages, and established cross-border systems of regulation.<sup>27</sup> Meanwhile, the evolution of international banking institutions and increasing investment from Britain into America intensified trans-Atlantic trade in raw materials, agricultural products, and manufactured goods. "In North-Western Europe new domestic industries and banking, trading and insurance companies and systems all arose on this wave of economic interaction."<sup>28</sup>

Global trade and investment has soared since the nineteenth century. Trade-to-GDP ratios among developed countries and in particular economic sectors increased exponentially. As Sir Andrew Crockett, the former general manager of the Bank of International Settlement, observes: "Speaking in very round terms, in 1970, cross-border transactions in securities by residents of the G-7 countries were approximately 1 percent of GDP. By 1980, they were approximately 10 percent of GDP. By 1990, they had reached 100 percent of GDP—an exponential and indeed explosive growth that is still continuing."<sup>29</sup>

Foreign investment stimulated industrialization and the development of infrastructure in the United States, Scandinavia, and parts of Eastern Europe and Latin America. Foreign investment was the primary form of economic interaction, which came to be governed by a developing set of international financial institutions—primarily international banks and the Gold Standard system. "In the decades after the war international trade, investment and production collapsed . . . although the impact of the Wall Street Crash and the depression indicated the degree to which the world remained economically interdependent."<sup>30</sup> International organizations, such as the International Monetary Fund (IMF), the World Bank, and the General Agreement on Trade and Tariffs (GATT) were established to regulate economic interaction between nation-states following the World War II. More recently, the International Organization for Securities Organiza-

tion (IOSCO), the Basel Committee on Banking Supervision, and the Joint Forum on Conglomerates have been established in response to the globalization of securities, banking, and insurance and the need to better coordinate regulatory standards and activities.<sup>31</sup>

As the Wallis Report found, "Globalization of the Australian financial system at the wholesale level is driven by cross-border consumerism, technological developments, and changes to the regulatory framework that have exposed the economy to international influences."<sup>32</sup> Globalization has led to an increasing number of foreign financial service providers, dual listings, and cross-border market operations in Australia, which is illustrated by the following trends:

- In or about 1997, between \$20 and \$30 billion worth of shares in Australian companies were traded annually on overseas exchanges;
- The proportion of Australian managed funds invested offshore has increased from approximately 8 percent in total assets in June 1988<sup>33</sup> to 17.9 percent in December 2003;<sup>34</sup>
- There are ten foreign bank subsidiaries (out of a total twenty-four) and twenty-nine branches of foreign banks in Australia,<sup>35</sup> with an increasing number of Australian financial service providers operating overseas;<sup>36</sup>
- Some 127 Australian companies have dual listings on the Australian Stock Exchange (ASX) and a foreign market;<sup>37</sup>
- As of April 2004, there were sixty-seven foreign companies listed on the ASX, holding around 31 percent of the ASX's total market capitalization;<sup>38</sup> and
- The establishment of cross-border trading links between the ASX and the Singapore Exchange, the ASX-SGX Trading Link, and between the ASX and the American Stock Exchange, NASDAQ, and the New York Stock Exchange, which forms the ASX-World Link that fosters dual listings and cross-border trade in securities.<sup>39</sup>

More recently, as the Australian Financial Sector Advisory Council concluded in its *Review of the Outcomes of the Financial System Inquiry* in 2003: "Globalization, convergence and technological change are three important forces that will continue to drive the evolution of the financial system. There is a need for policy development and regulatory structures to keep pace with the inevitable interplay of these forces. It is the Council's view that the Australian regulatory system is fundamentally well placed to meet these challenges."<sup>40</sup>

### **Regulatory Objectives and Challenges Posed by Globalization**

Globalization challenges traditional notions of regulation and enforcement and the ability to achieve regulatory objectives that are common to regulators all over the world. That is, protecting investors, ensuring that securities markets are fair, efficient, and transparent; and the reduction of sys-

tematic risk in a cross-border regulatory environment. The role of the regulator is to promote an environment where business can be done efficiently and profitably—but not at the expense of the consumer. As Joe Hockey, then minister for Financial Services and Regulation in Australia said: “Our goal is to build a regulatory framework relevant to this new environment. A regulatory framework that is consistent, flexible, adaptable and cost effective, a framework that encourages innovation and a framework that enhances consumer protection and promotes market integrity.”<sup>41</sup>

There are many reasons for regulating financial services and especially investments, but perhaps the best-recognized broad principles are those of IOSCO. IOSCO views the following as the three core objectives of securities regulation: (1) the protection of investors, (2) ensuring that markets are fair, efficient, and transparent, and (3) the reduction of systemic risk.<sup>42</sup> Similarly, ASIC holds the following regulatory aims and objectives:

- Maintain, facilitate and improve the performance of the financial system and the entities within that system in the interests of commercial certainty, reducing business costs, and the efficiency and development of the economy; and
- Promote the confident and informed participation of investors and consumers in the financial system; and
- Ensure that information is available as soon as practicable for access by the public; and
- Take whatever action it can take, and is necessary, in order to enforce and give effect to the laws of the Commonwealth that confer functions and powers on it.<sup>43</sup>

These objectives may be summarized into three aims: efficiency, stability, and competitive equity.<sup>44</sup> Regulating for efficiency means ensuring that “the price of the risk should appropriately reflect its cost” and that in ensuring this, markets are transparent and free of distortions. Stability infers that regulators concerned with “systemic oversight . . . try to avoid that kind of instability with its all destructive power.” Finally, competitive equity refers to an effort “to produce conditions of competitive equity that facilitate genuine competition among institutions and maximize its beneficial consequences.”<sup>45</sup>

Globalization challenges the ability of regulators to achieve regulatory objectives in a cross-border environment since most regulation has relied on the territorial presence of the entities being regulated in the jurisdiction seeking to regulate them. Administering and enforcing national laws against foreign companies is often limited and difficult because of the principle of state sovereignty, which provides that a state has exclusive regulatory and legislative power within its national borders. State sovereignty impedes a national regulator from exercising extraterritorial jurisdiction. This undermines the ability of a regulator to both ensure that markets are fair and to protect investors from misconduct that occurs outside

the territorial jurisdiction of the state. Regulatory duplication, which occurs when a financial service provider operates in more than one jurisdiction, increases compliance costs, fosters regulatory arbitrage, and can trigger a regulatory race to the bottom.

Australia seeks to achieve regulatory objectives that support financial consolidation in the context of globalization. In doing so, it has produced an environment supportive of financial consolidation. This is discussed in the next section, which describes three phases of regulatory rationalization that have shaped Australia's current regulatory framework in response to globalization.

## History of Australia's Regulatory Reform

While it is clearly not the only or perhaps the most significant influence, regulation can drive change in the financial services sector. It cultivates some businesses and fells others. Australia's regulatory experience is somewhat unusual because, as Harold D. Skipper, professor in Georgia State's Risk Management and Insurance Department, observes, "the [Australian] government has never prohibited the creation of financial conglomerates. Its approach to their regulation, however, has changed dramatically."<sup>46</sup> By way of contrast, for example, the United States opened the door to the integration of commercial banking with other financial services only in March 2000 by way of the Gramm-Leach-Bliley Act of 1999. Prior to this act, U.S. banks were forced to use "side routes" to circumvent the cross-industry limitations imposed by the Glass-Steagall Act of 1933.<sup>47</sup> In Australia, the financial sector is dominated by sophisticated financial conglomerates, which are supported by regulatory structures. Their creation has been supported, and perhaps spawned, by deregulation and financial liberalization in the 1980s, the Wallis Inquiry that occurred in 1996, and the recent financial services and regulatory reform that has been taking place since 2001.

### **Deregulation, Financial Liberalization, and Superannuation in the 1980s**

Deregulation is the "removal of controls by governments on the operation of markets."<sup>48</sup> Common forms of control include limiting the number of participants in a market, restricting the activities of those participants, and creating artificial ceilings and floors for that market (for example, capping the interest rate at which a bank can lend). Financial liberalization is the removal of restrictions preventing free capital flows to and from a country. For example, this occurs when the domestic banking sector is allowed to borrow from the international capital market.<sup>49</sup> Financial liberalization is often realized after the deregulation of a financial system. That is, once governments remove controls, capital flows in and out of a country may commence.



*Deregulation and Financial Liberalization in Australia*

Widespread deregulation of Australia's financial markets commenced in 1979 with the first Australian Financial System Inquiry ("the Campbell Inquiry"). The underlying goal of the Campbell Inquiry was to dismantle the barriers to entry into the financial system while strengthening prudential measures so as to preserve system stability.<sup>50</sup> Prior to deregulation, a regulatory gulf had emerged between banks and their competitors, the nonbank financial institutions (NBFIs). Both banks and NBFIs were vying for lending business, but the latter enjoyed a more lenient regulatory environment.<sup>51</sup> Banks had to meet high prudential standards, were subject to credit rationing, and were also proscribed from lending above a set interest rate.<sup>52</sup>

The high inflationary environment experienced in the 1970s exposed the regulatory disparity between banks and NBFIs. Banks, subject to interest rate ceilings, were unable to offer products with interest rates that kept pace with inflation. Lighter-regulated NBFIs were able to offer consumers more attractive products that maintained real value vis-à-vis inflation and were therefore able to poach large portions of the lending market.<sup>53</sup> "The immediate impact on regulated financial institutions was an erosion of their competitive position relative to institutions with greater capacity to price flexibly."<sup>54</sup>

As a result, between 1953 and 1980, the proportion of assets owned by banks shrank from 88 percent to 58 percent of the banking market.<sup>55</sup> Meanwhile, NBFIs, such as building societies and finance companies, grew in significance. The effect of this was twofold:

1. Weakening of the ability of monetary authorities to administer monetary policy through banks because a growing proportion of financial activity took place outside the banking sector;<sup>56</sup> and
2. Regulatory arbitrage. By 1959 each trading bank had purchased an interest in a finance company to circumvent the tighter banking regulations and by entering lesser-regulated markets—a form of intra-industry consolidation.<sup>57</sup>

In 1981, the Campbell Inquiry made recommendations that aimed at enhancing Australia's financial system in four key ways: (1) promoting competition, (2) increasing efficiency, (3) fostering international competitiveness, and (4) creating choice and quality of products.<sup>58</sup> The Campbell Inquiry's recommendations were largely adopted during the 1980s and 1990s. Under the guise of deregulation, a series of reforms then swept across Australia's financial system. As a result, most financial controls over bank lending were abolished. This was achieved by

- The phased withdrawal of interest rate ceilings;
- The removal of the distinction between savings and trading banks; and
- Allowing banks to pay interest on checking accounts.<sup>59</sup>

In 1983, the Australian government allowed foreign banks to enter the market and ensured national treatment for new entrants whereby foreign banks were afforded the same treatment and subject to the same restrictions as Australian banks. By 1985, sixteen new licenses had been issued to foreign banks. Beginning in 1992, foreign banks were able to establish branches in Australia and were permitted to undertake all banking activities other than retail deposits.<sup>60</sup> As of June 15, 2004, twenty-eight foreign banks had obtained consent to operate branches in Australia, including the Bank of China and the International Commercial Bank of China.<sup>61</sup>

The Australian dollar was floated in 1983, resulting in

- The dismantling of restrictions on capital flows in and out of Australia;
- Allowing the market to determine the fair value of the dollar; and
- Bestowing the Reserve Bank of Australia (RBA) with greater control of monetary conditions.<sup>62</sup>

Deregulation set the platform, at the most basic level, for the emergence of dominant financial conglomerates in Australia's financial system. It exposed financial institutions to heightened competitive pressures and leveled the regulatory inequalities between banks and NBFIs. Deregulation empowered financial institutions to focus on innovating new products to capitalize on newfound liberties. New products would eventually blur the distinction between banks, insurance companies, and securities businesses. As the second Financial System Inquiry, which was conducted by Stan Wallis in 1996, observed:<sup>63</sup> "[Deregulation] focused innovation on the delivery of financial services rather than on the unproductive activity of circumventing outdated regulations. . . . It created a more competitive environment in financial markets."

Since deregulation, while increased competition has reduced lending market share, off-balance sheet (nonlending) activities have defrayed this loss.<sup>64</sup> One example of this is the rise of banks' involvement in over-the-counter (OTC) derivative markets, an area traditionally reserved for securities business. In terms of turnover, Australian OTC markets have more than doubled since deregulation. In 1996–97, OTC market turnover was A\$21,849 billion<sup>65</sup> compared to A\$42,462 billion<sup>66</sup> in 2002–03. This consisted of an increase in annual turnover for banks of around 460 percent between 1998–99 and 2002–03.<sup>67</sup> It is within this environment that banks, insurers, and securities business consolidated to form financial conglomerates.

### *Superannuation*

During the era of deregulation, the Australian government implemented compulsory retirement savings into the financial system via the Superannuation Guarantee. The move shifted the flow of household savings from traditional banking products to collective investments.<sup>68</sup> The superannuation system (also known as pension funds) made it compulsory for

employers to contribute a minimum percentage of their employees' salaries into a superannuation account. This account is ordinarily reserved for the employee until reaching the age of retirement and is taxed at a concessional rate. By 1992, legislation was in place that mandated employer contribution rates, including a timetable to increase contributions to current levels of 9 percent.<sup>69</sup> At the same time, in an environment where Australian incomes were rising, there was impetus for self-funding retirement rather than relying on the public provisions of pensions.<sup>70</sup>

Compulsory superannuation and shifting sentiments toward self-funded retirement created an explosion in demand for funds management and life insurance products as the main repositories of superannuation money. This in turn encouraged financial institutions not operating funds management or life businesses, or with small operations, to enter or increase exposure to the burgeoning market. Cross-industry consolidation followed. Figure 3.1 shows how deposits as a percentage of GDP have remained static, compared to the enormous gains in life insurance and superannuation. Total assets in superannuation have grown from A\$229 billion in June 1995 to A\$565 billion in December 2003.<sup>71</sup> During the same period, superannuation assets held by funds managers have grown from A\$74 billion to A\$196 billion and A\$86 billion to A\$159 billion for life insurance companies.<sup>72</sup>

Banks have been the most aggressive entrants into the funds management and life industries. Of Australia's four largest banks, each has made significant acquisitions outside traditional banking lines. The National Australia Bank acquired MLC in April 2000. The other three "pillar" banks have also been active predators. In March 2000, the Commonwealth Bank of Australia (CBA) announced its intentions to merge with banking, insur-

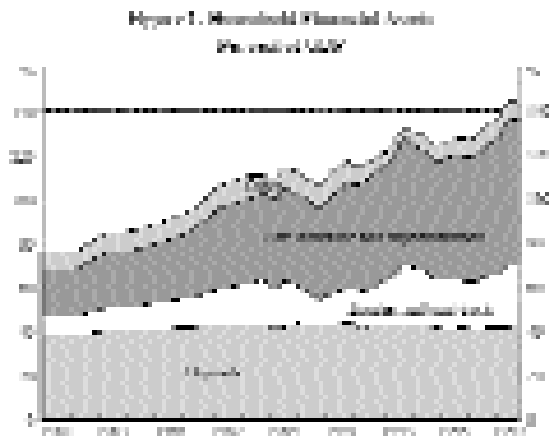


Figure 3.1. Household financial assets

er, and fund manager Colonial Group Limited (Colonial).<sup>73</sup> CBA absorbed Colonial's large funds management and life businesses to become Australia's largest asset manager (retail and wholesale) and the third- largest life insurer. In 2002, a spate of cross-industry acquisitions occurred with the Westpac Banking Corporation purchasing both the BT Financial Group and Rothschild Asset Management and the Australia and New Zealand Banking Corporation Ltd. (ANZ) striking an alliance with the ING Group (ING). ANZ purchased 49 percent of ING. The result of these cross-industry acquisitions was the concentration of banks in the funds management industry. This is demonstrated in Table 3.1; the four banks mentioned have been highlighted for emphasis.

### **The Financial System Inquiry (The Wallis Inquiry): 1996**

In 1996, the Australian government initiated a second review of the country's financial system—the Wallis Inquiry<sup>74</sup>—that was to precipitate a major shift in the country's regulatory framework. The Wallis Inquiry invited submissions from the public,<sup>75</sup> which, along with nationwide public consultation, culminated in the Wallis Report, containing 115 recommendations. A core goal of the Wallis Inquiry was to contemplate how to build a regulatory environment that satisfactorily deals with the effect of

**Table 3.1.** Australian sourced total assets under management (top 10 managers) (September 2003)

<b>Top Ten (prev. qtr)</b>	<b>Manager</b>	<b>Size \$M Sept 03</b>	<b>Market Share %</b>
<b>1 (1)</b>	<b>Commonwealth (Colonial First State)</b>	<b>78,198.78</b>	<b>11.3</b>
2 (2)	AMP	63,154.21	9.1
3 (4)	Macquarie Bank Group Managed Funds	52,315.62	7.5
<b>4 (3)</b>	<b>National Australia Bank (MLC)</b>	<b>51,793.10</b>	<b>7.5</b>
5 (5)	State Street Global Advisors	42,613.84	6.2
<b>6 (6)</b>	<b>ANZ (ING)</b>	<b>41,484.00</b>	<b>6.0</b>
<b>7 (7)</b>	<b>Westpac (BT Financial Group)</b>	<b>41,376.27</b>	<b>6.0</b>
8 (8)	AXA Asia Pacific Holdings	38,022.00	5.5
9 (9)	Deutsche Asset Man. Australia Ltd	28,221.62	4.1
10 (10)	Barclays Global Investors Australia Ltd	25,752.36	3.7
<b>Top 10 Total</b>		<b>439,050.93</b>	<b>66.9</b>
<b>Industry Total</b>		<b>691,973.00</b>	<b>100.0</b>

Source: IFSA, n 18.

financial consolidation and in particular cross-industry conglomeration within the financial system. The Wallis Inquiry was created to consider forces driving change and to recommend “regulatory arrangements that would best ensure an efficient, responsive, competitive and flexible financial system to underpin stronger economic performance, consistent with financial stability, prudence, integrity and fairness.”<sup>76</sup> As Alan Cameron, former chairman of ASIC, noted in 1999, “The Wallis Inquiry into the financial system and the subsequent reorganization of the regulatory structures in Australia in 1998 was in part driven by the Government’s recognition of this integration of financial products.”<sup>77</sup>

The Wallis Inquiry was not established in the wake of any crises; Australia had not experienced the collapse of a bank or any widespread perception of misconduct in the financial system.<sup>78</sup> It was created to provide a stocktake of the effects of deregulation and to predict a future regulatory framework that could operate within an environment affected by rapid technological innovation, an evolving business environment, and longer-term changes in customer needs and profiles.<sup>79</sup>

The Wallis Inquiry exposed, then recommended to the government that it should revamp Australia’s fragmented regulatory structures. It highlighted the inefficiency of having at least four authorities regulating across institutional lines, where the regulator’s functions, powers, and expertise were restricted to a single industry. In some places the regulators’ functions and powers overlapped, and in other areas gaps existed. These inefficiencies cast a shadow of systemic vulnerability, as authorities could not effectively achieve their regulatory objectives and business was unnecessarily hindered by regulatory inequalities. In fact, in 1999, Bain and Harper (referring to a study conducted by the Australian Mutual Provident Society in 1996) suggested that a bank with a life company portfolio of assets would enjoy lower capital adequacy requirements than a life company holding the same portfolio of assets—a situation that required review for its systemic and competitive significance.<sup>80</sup> The need for rationalization and harmonization of the overlapping regulatory bodies had to be addressed—“the objective not being to create more regulatory bodies, but to create a system of consistent and focused prudential control and regulation.”<sup>81</sup>

#### *The Australian Regulatory Structure Prior to the Wallis Report*

At the time of the Wallis Report, the consumer protection and market integrity responsibilities were in the hands of the following regulators:

- The Insurance and Superannuation Commission (the ISC) in relation to life insurance, general insurance and superannuation products, and insurance brokers;
- ASIC’s predecessor, the Australian Securities Commission (the ASC) in relation to market operators, securities dealers, investment advis-

ers, futures brokers and advisers, collective investment schemes, and corporate fundraising;

- The Australian Competition and Consumer Commission (the ACCC)<sup>82</sup> in relation to economy-wide business conduct laws and competition laws; and
- The Australian Payments System Council (the APSC), an advisory body that reported to the treasurer and chaired by the Reserve Bank of Australia, which monitored industry codes of practice for electronic funds transfer schemes, banks, building societies, and credit unions.<sup>83</sup>

The framework for prudential regulation was also institutionally based, with separate agencies regulating the activities of each class of institution. There were three key regimes for prudential regulation:

1. The Reserve Bank of Australia (the RBA) for banks and payments settlement systems;<sup>84</sup>
2. The Insurance and Superannuation Commission (ISC) for life and general insurance and superannuation; and
3. The State-based Financial Institutions (the FI) Scheme that incorporated the Australian Financial Institutions Commission (the AFIC) and associated State Supervisory Authorities (the SSAs) for the credit union and building society industries.

*The New Regulatory Arrangement Post-Wallis: The “Twin Peaks” Model*

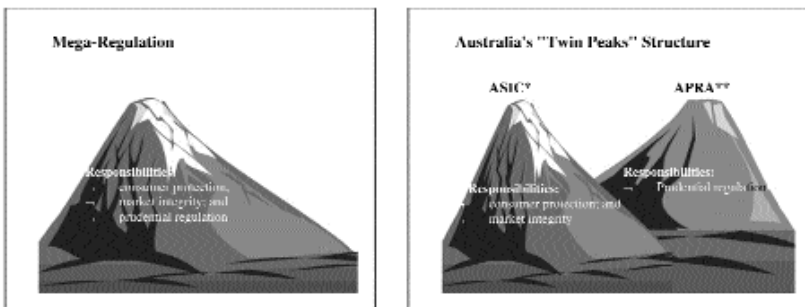
Soon after the release of the Wallis Report in March 1997, the Australian government restructured Australia’s regulatory regime based upon the “twin peaks” model. It established structures based on functional lines rather than institutional divisions. Regulation was based on financial products such as bank deposits or insurance policies, rather than according to the predominant characteristics of the institutions that offered them. This meant that if, for example, a company whose core business was insurance engages in transaction banking, that company would be subject to the same requirements with respect to that product as a bank (with respect to its banking operations).

The twin peaks approach to regulation was first articulated in London in 1995 in a report issued by the Center for the Study of Financial Institutions.<sup>85</sup> The twin peaks of financial system regulation are prudential regulation on the one hand and consumer protection and market integrity on the other. In Australia, that is APRA and ASIC, respectively.<sup>86</sup> The Wallis Inquiry initially recommended a third peak: a regulator to deal with market integrity. But it was decided to modify the twin peaks structure by aligning the role of consumer protector with market integrity and giving that function to ASIC.<sup>87</sup> The difference between the mega-regulator and twin peaks approach may be summarized diagrammatically as follows (see Figure 3.2):

The respective roles and functions of APRA and ASIC are as follows:

1. APRA is responsible for overall financial stability and provides prudential regulation for deposit-taking institutions, life and general insurance companies, and superannuation funds
2. ASIC is responsible for market integrity and consumer protection with respect to
  - the regulation of corporations, securities, and futures markets (already performed by the former ASC);
  - any entity that offers a financial product, including superannuation interests, retirements savings accounts, and general and life insurance (e.g., banks, building societies, credit unions, and friendly societies), particularly in connection with product disclosure;
  - consumer protection functions for the finance sector (which had previously been performed by the Australian Competition and Consumer Commission and the Australian Payments System Council); and
  - oversight of industry initiatives for consumer protection in the areas of new technology in the finance sector and ensuring they develop in a coordinated way.

Under the twin peaks structure, an integrated financial institution whose business crosses either two or more of the banking, insurance, and securities sectors is subject to the regulation of both ASIC and APRA. For example, a deposit-taking institution that also provides product advice about general insurance products is subject to the prudential requirements imposed by APRA, as well as the consumer protection and market integrity obligations imposed by ASIC. The deposit-taking institution must obtain “authorization” from APRA by satisfying APRA’s capital adequacy, liquidity, and risk management requirements. It is also required to obtain a



♦ ASIC: Australian Securities and Investments Commission.  
♦♦ APRA: Australian Prudential Regulation Authority.

Figure 3.2. Mega-regulation versus “twin peaks”

license from ASIC to provide financial services advice or deal in a financial product.

The move from regulating along institutional to functional lines using the twin peaks model reinvigorated Australia's regulatory infrastructure, particularly with respect to financial conglomerates. It creates a coordinated front and reduces both regulatory fragmentation and competitive inequalities. Some financial institutions must now deal with more than one regulatory body.<sup>88</sup> However, in the main, the new structure reduces the burden of duplication previously faced by some financial service providers. For example, where an entity such as the deposit-taking institution is "authorized" by APRA, it is not required to satisfy ASIC's financial requirements. Consumers and product providers also benefit from the standardized regulation of like products, which under the old regime might have been subject to a number of different regulators and conflicting rules.

#### *Testing the Structure: The HIH Collapse*

The reforms introduced by the Wallis Report were not a panacea for the financial system. The A\$5.3 billion collapse of the insurance conglomerate HIH Insurance Group (HIH) underlined this in 2001.<sup>89</sup> HIH was predominantly a general insurer and one of Australia's largest home-building market insurers. The prime minister of Australia, John Howard, announced a Royal Commission into the failure of HIH in June 2001.<sup>90</sup> Justice Neville Owen was appointed commissioner and directed under the Royal Commission's terms of reference to enquire into, among other things, "the appropriateness of the manner in which powers were exercised and responsibilities and obligations were discharged under Commonwealth laws."<sup>91</sup> This opened the doors to a review of the way the prudential regulator, APRA, performed its functions, particularly with reference to the insurance industry. Australian treasurer Peter Costello summarized the outcome as follows:<sup>92</sup> "APRA did not cause the collapse of HIH. [The commissioner] notes at page 442 of the third volume of his report that 'APRA's failure to act did not contribute to the collapse of HIH. However, the manner in which APRA exercised its powers and discharged its responsibilities under the Insurance Act fell short of that which the community was entitled to expect from the prudential regulator of the insurance industry.'"

APRA itself recognizes and broadly accepts the royal commissioner's account of the inadequacies of the supervision of HIH over 1999 and 2000.<sup>93</sup> According to Royal Commissioner Owen, these shortcomings were a weak regulatory framework for general insurance, a shortage of experienced staff during APRA's establishment phase, and undeveloped internal processes within APRA.<sup>94</sup> The Royal Commission made sixty-one policy recommendations covering corporate governance, financial reporting and assurance, regulation of general insurance, state and territory regulation,



taxation and general insurance, and a policyholder support scheme.<sup>95</sup> However, it is significant that Royal Commissioner Owen did not recommend altering the functionally based twin peaks regulatory regime that the Wallis Report recommended. Indeed, the Australian Financial Sector Advisory Council's "Review of the Outcomes of the Financial System Inquiry 1997" found that, in light of the HIH collapse, "Prima facie, there is no evidence of a flaw in the Wallis financial sector reform model."<sup>96</sup>

#### *Twin Peaks versus Mega-Regulator*

Despite Australia's success using the twin peaks model of regulation, which has also been adopted by France and the Netherlands, the impetus for a single authority is growing. In May 1997, the United Kingdom's decision to adopt a single "mega-regulator"—the Financial Supervisory Authority (FSA)—was a harbinger for the rest of the world. Around twenty-two countries have adopted the mega-regulator approach, including Japan and Korea. Presently, 29 percent of the seventy-seven countries sampled by Martinez and Rose have adopted the single-regulator approach, with Estonia, Germany, Ireland, and Malta being the most recent converts in 2002. As of July 2003, another seven countries were reportedly considering amending their structure toward the single model.<sup>97</sup>

*Advantages of mega-regulation.* According to Martinez and Rose, countries that have moved to a single regulator believe that a single regulator is<sup>98</sup>

- more effective at monitoring and responding to risks and threats in the financial system;
- more accountable than a diffused regulatory regime; and
- better able to supervise financial conglomerates because it minimizes regulatory arbitrage by "applying a consistent approach to regulation and supervision across all different segments of the financial system."

Eilis Ferran, the director of the Center for Corporate and Commercial Law at the University of Cambridge, UK, states that "a single regulator is superior because it mirrors the nature of the participants and products in financial markets."<sup>99</sup> Another benefit, according to Ferran (with particular reference to the FSA), is the inherent simplicity of a single regulator structure vis-à-vis the complex and intertwined multiregulatory regime that preceded it. Furthermore, the one body has a view across the whole financial system and can therefore unearth economies of scale and scope by allocating, in a coherent and coordinated manner, resources where they are most needed.

*Advantages of the twin peaks.* The Wallis Inquiry contemplated but chose not to recommend mega-regulation. It briefly cited four reasons for this decision:<sup>100</sup>

1. The separate agencies APRA and ASIC would best perform if they had their own distinct culture;
2. Australia's financial system is not ready for complete regulatory integration;
3. Fears of a single regulator becoming excessively powerful; and
4. Issues relating to the efficiency of all the functions being reposed in one body.

In reaching its decision, perhaps the Wallis Inquiry relied heavily on the arguments of Michael Taylor, the architect of the twin peaks structure. Taylor summarizes the argument in favor of the 'twin peaks' model as follows: "The benefits of twin peaks are clear. The proposed structure would eliminate regulatory duplication and overlap; it would create regulatory bodies with a clear and precise remit; it would establish mechanisms for conflicts between the objectives of financial services regulation; and it would encourage a regulatory process which is open, transparent and publicly accountable. As such, it is consistent with the current philosophy of 'unbundling' the functions of public sector agencies, to achieve greater transparency, efficiency and clearer lines of responsibility."<sup>101</sup>

The twin peaks model is also said to "institutionalize the distinction between systemic risk and consumer protection objectives, and between measures intended for the inter-professional markets and the retail consumer."<sup>102</sup> Also, the objectives of consumer protection and prudential regulation sometimes come into conflict, and single regulators are often forced to make judgment about important public policy directions, whereas such conflicts should be resolved through political processes. With the twin peaks structure, both regulatory bodies are subject to government oversight.<sup>103</sup> Similarly, when conflicts as to competing regulatory objectives arise, a political decision is required. Moreover, the mega-regulator is criticized because it "could potentially become an over-mighty bully, a bureaucratic leviathan divorced from the industry it regulates."<sup>104</sup>

In Australia, support for the dual structure remains strong; regulatory objectives are being met and the financial system is enjoying both growth and stability. The 1997 Wallis Report indicates that the time horizon of its analysis is five to ten years, although there is no scheduled timetable for further review of Australia's regulatory structure.<sup>105</sup> An example of the way in which potential conflicts are resolved through political processes in the Australian context is the memorandum of understanding (MOU) and operational protocols existing between ASIC and APRA. The MOU and the protocols facilitate consultation and cooperation between the agencies and establishment of a "lead regulator" in appropriate circumstances. An illustration of this point is where an investigation is warranted by both agencies, which have jurisdiction under their acts because the conduct in question gives rise to different offenses under the Corporations Act (ASIC responsibility) and the APRA Act (APRA responsibility).

France and the Netherlands have also adopted the twin peaks structure. In 2003, the French government enacted new legislation that established the twin peaks approach. The French used Australia's twin peaks as a model for their regulatory reorganization. Jean-Claude Delespaul, the managing director of the Autorité des Marchés Financiers,<sup>106</sup> stated in 2001 (when contemplating the adoption of the twin peaks approach): "The choice of France in a law under discussion in the Parliament is for the functional approach within an inspiration derived from the Australian 'Twin Peaks' model: one authority to ensure investors' protection, market integrity and the fair and transparent functioning of the market, and a common effort from the banking and insurance supervisors to promote financial stability."<sup>107</sup>

The French twin peaks model<sup>108</sup> established on the one side the market integrity and consumer protection agency—the Autorité des Marchés Financiers (AMF)<sup>109</sup>—and on the other side the prudential regulator, Commission Bancaire.<sup>110</sup> Despite the trend toward mega-regulation, France's recent decision to adopt the twin peaks architecture demonstrates the continuing confidence of this model as a viable alternative to mega-regulation.

### **Financial Services Reform: A Universal Licensing and Disclosure Regime**

Financial services reform was the third major step in reorganizing Australia's regulatory framework to support financial consolidation. It introduced a universal licensing and disclosure regime for the regulation of financial products and services across the vast majority of the financial system. Financial services reform was also a legislative response to systemic faults articulated by the Wallis Inquiry, which identified the following three areas of concern:<sup>111</sup>

1. Disclosure: The Wallis Inquiry found that where financial institutions faced inconsistent information disclosure, regulations "vary greatly in their status, degree of prescription and penalties for breach."<sup>112</sup> Moreover, the information available might not allow prospective purchasers to both make informed decisions and effectively compare the characteristics, costs and expected rates of returns of various products.
2. Licensing: With respect to licensing, financial market participants were found to be facing an entangled overlapping licensing regime. The Wallis Inquiry noted: "[p]articular problems arise where participants are subject to more than one regime, sometimes with contradictory rules. For example, an estimated 71 percent of life brokers and 18 percent of life company advisers are also licensed securities dealers"<sup>113</sup>; and
3. Financial markets: There was also a regulatory lacuna for products falling outside the definitions of "securities" and "futures con-

tracts” in Australia’s old companies and financial services legislation, the Corporations Law. The restricted definitions of “securities” and “futures contract” required legislative augmentation to allow exchanges to open their doors to new products. There was also ambiguity in relation to new financial products that had both characteristics of the Corporations Law’s definition of “securities” and “futures contract”.

To implement the financial services reforms, the Australian government introduced a bill into Parliament in April 2001. The bill received assent in September 2001 and the new act—the Financial Services Reform Act 2001 (FSRA)—commenced operating on March 11, 2002. The FSRA added chapter 7 to Australia’s corporations and financial services legislation, the Corporations Act 2001. In its role as consumer protection and market integrity regulator, ASIC administers and enforces compliance with the Corporations Act. The legislative framework empowers ASIC to pursue a range of remedial action when breaches of the act occur. Such remedies may be criminal, civil, or administrative depending on the type and severity of contravention. The new chapter 7 of the Corporations Act allowed a two-year transition period, which gave time to established operators to amend arrangements to become compliant with the new requirements. The amendments required new entrants to be licensed and compliant from the time they commenced business. The reforms became fully operational on March 11, 2004.

#### *Financial Services Reform: Licensing*

In essence, the reforms provide a single regulatory regime for financial products and services, financial markets, and clearing and settlement facilities. One of the main reforms is the introduction of the Australian Financial Services license (AFS license) requirements covering the provision of financial services.<sup>114</sup> Individuals will generally need to hold an AFS license if they carry on a financial services business other than as a representative of a licensee unless an exemption applies.<sup>115</sup>

Perhaps the best evidence of the uniformity introduced by chapter 7 is the definition of “financial product.”<sup>116</sup> Essentially, the licensing regime harmonizes the regulation of most financial products including managed investments, superannuation,<sup>117</sup> general and life insurance, securities, futures and derivatives, foreign exchange, and deposit accounts. It groups products on the basis of their economic function, irrespective of their historic distinction. Horgan provides an example: “Investment products such as securities and derivatives may have an economically similar function of investment, even though these products constitute legally different types of interests.”<sup>118</sup>

ASIC relief has been provided in circumstances where the wide definition of financial products in the Corporations Act has produced an inappropriate result.<sup>119</sup>

#### *Financial Services Reform: Product Disclosure*

The second limb of Australia's financial services reform is uniform product disclosure. Section 1012A of the Corporations Act specifies the circumstances under which a product disclosure statement must be provided to a client; that is, where a specified person (such as the issuer of a financial product) providing advice to a client recommends a financial product, and the client is a retail client or would acquire the product on issue or through certain off market secondary transfers.<sup>120</sup> A product disclosure statement is also required if the advice about the financial product is being given as personal advice to the client.

Financial services reform was instituted in Australia in response to increased conglomeration, "which would continue to challenge traditional institutional and regulatory boundaries."<sup>121</sup> The result is a universal, streamlined licensing and disclosure regulatory regime. The main objectives of the reforms are to promote confident and informed decision making by consumers of financial products and services while facilitating efficiency, flexibility, and innovation in the provision of those products and services.<sup>122</sup> It is also intended to promote fairness, honesty, and professionalism by those who provide financial services and create a fair, orderly, and transparent market for financial products. The final objective is to reduce systemic risk and provide fair and effective services by clearing and settlement facilities. Licensing provides a universal gateway for all financial service operators. The licensing regime permits a financial institution to engage in activities across the entire financial system, while enjoying a consistent regulatory environment. Meanwhile, a standardized product disclosure regime protects consumers by giving them consistency and certainty. As a consequence, it allows them to make informed decisions. By producing a harmonized licensing and disclosure regime across a wide spectrum of financial products, the financial services reform supports financial consolidation in the context of globalization.<sup>123</sup>

### **Trends and Policy Directions**

This section examines trends and policy directions that support financial consolidation in the context of globalization. Three regulatory trends will be discussed:

1. Regulatory competition between financial centers
2. Harmonization through increasing convergence in international regulatory standards
3. Cross-border regulatory cooperation

### **Regulatory Competition**

Regulatory competition occurs when financial centers use differing regulatory requirements to compete for market share in the financial sector. Competition is heightened by cross-border financial consolidation when the conglomerate can choose between two or more financial centers that had been solely responsible for regulating what was a single entity. “There is increasing competition between different nation states and amongst financial centers for market share in the financial sector that is sure to become more intense as they seek to promote their individual versions of leading edge regulation.”<sup>124</sup> Can regulatory competition achieve the objectives of protecting investors—ensuring that securities markets are fair, efficient, and transparent and reducing systematic risk in a cross-border regulatory environment? This needs to be considered to determine whether regulatory competition is an optimal regulatory response to financial consolidation in the context of globalization.

Regulatory competition between rival centers should be encouraged if competition means that regulatory standards converge around some socially and financially optimum level. However, as Singer observes, “Most of the debate on globalization emphasizes the possibility of regulatory arbitrage where capital will flow to the least regulated areas, thereby inducing a regulatory race to the bottom.”<sup>125</sup>

Indeed, “regulatory laxity can be a significant advantage, as shown by the vibrant banking sector of the tiny island nation of Vanuatu.”<sup>126</sup> If regulators prescribe strict and costly regulations, they may put their financial sector at a competitive disadvantage to foreign rivals. In Australia, the threat of competition from foreign markets provides incentives for regulators to lower compliance costs and enhance service quality for issuers and investors. Foreign markets and foreign financial service providers may be able to provide financial services at lower cost and with higher liquidity than their counterparts. Ensuring a competitive environment for financial service providers is therefore an important policy objective for governments and regulators such as ASIC, particularly in the context of globalization.

Competition may be more conducive to achieving a competitive and efficient market, but not necessarily the protection of investors, the creation of a fair global market, nor the reduction of systemic risk. While competition can lead to the most rigorous regulatory regime, there is some concern that competition could and would be more likely to cause a regulatory “race to the bottom” in which some regulators, in order to attract capital inflows, are pressured by governments and more powerful multinationals to lower regulatory controls imposed on foreign operators. As Singer suggests, “Faced with this ‘regulators dilemma,’ financial regulators from industrialized countries have initiated a range of efforts to harmonize their prudential regulations—that is, to negotiate internationally—

accepted minimum requirements for the stability of financial institutions.”<sup>127</sup>

### **International Harmonization**

International harmonization is a process by which laws, policies, and procedures governing the operation of securities markets are amended by a country to conform to an international standard or those of one or several other countries. It is an effective regulatory response to financial consolidation in the context of globalization because harmonized laws, policies, and procedures afford greater certainty and predictability to financial conglomerates that operate in more than one jurisdiction. Differences between financial centers where cross-border conglomerates reside—in legal structure, market development, national policy goals, and culture—mean that global harmonization is a long-term and difficult objective. Yet such differences are what make international harmonization an important regulatory trend toward achieving regulatory objectives that resonate across borders.

The ongoing process of increasing cross-border consolidation and globalization of financial services increases the pressure for uniformity in regulatory standards across borders.<sup>128</sup> The integration of equity markets, which have different degrees of investor protection, has significant implications for the operation of the investor protection framework that currently applies to Australian investors. As Axis Australia explains: “These implications are most clearly evident with regard to Australian investors that trade in securities issued by overseas companies on overseas facilities through overseas intermediaries. Under these circumstances, the most important implication with regard to investor protection is that investors may not be able to benefit from the protections contained in national regulatory frameworks.”<sup>129</sup>

The process of harmonization through increasing convergence and cross-border cooperation will help to ensure investors are afforded the same level of investor protection across borders. For example, as part of the ASX-SGX Trading Link, the ASX and Singapore Exchange Limited (SGX) have developed a list of core harmonized principles. The link with SGX is designed to facilitate efficient trading and settlement of securities between the two countries and trading of SGX securities by Australian investors and ASX securities by Singaporean investors. The linkage involves an electronic cotrading and clearing arrangement so brokers can trade selected securities listed on the other exchange while maintaining the protection of the home regulator.

The harmonization of laws, policies, and procedures that prohibit market manipulation and insider trading therefore improves the capacity of a regulator in one jurisdiction to enforce such laws against investors from other jurisdictions. This will become increasingly important as globalization increases the number of foreign financial service providers operating

across borders and the likelihood of trading platforms such as the Australian Stock Exchange receiving more orders from investors in other jurisdictions and trading in securities issued by Australian companies via Australian intermediaries, through links such as the ASX–SGX link and the ASX World Link.

### *Multilateral Harmonization*

There are three broad types of regulatory harmonization—regulatory convergence, core harmonization, and peripheral harmonization—that are occurring through multilateral forums such as the Basel Committee on Banking Supervision, IOSCO, and the Joint Forum on Conglomerates. Regulatory convergence is an organic process by which countries modify their regulations based on the policies of other countries—particularly dominant countries and international regulatory organizations such as IOSCO.<sup>130</sup> Core harmonization occurs when a small group of countries—particularly advanced industrialized countries—agree through overt negotiation to harmonize their regulations.<sup>131</sup> The Basel Accord is an example of core harmonization having initially occurred between the United States and the United Kingdom. Peripheral harmonization is the result of the creation of an international standard and countries outside the core group of industrialized countries choosing whether to accede to an international standard.<sup>132</sup> Countries now choosing to harmonize their laws to qualify as signatories to the IOSCO Multilateral Memorandum of Understanding (MMOU), also described in more detail below, present an example of peripheral harmonization occurring.

*The Basel Committee on Banking Supervision.* The Basel Committee on Banking Supervision was founded in 1974.<sup>133</sup> It consists of representatives of twelve central banks that regulate the world's largest banking markets.<sup>134</sup> The committee encourages convergence toward common approaches without attempting detailed harmonization standards of member countries' supervisory techniques.<sup>135</sup> Further, the committee formulates supervisory standards and guidelines and recommends statements of best practice such as the Basel Accord in the expectation that individual authorities will harmonize policies and procedures—statutory or otherwise—that are best suited to their own national systems.

The Basel Accord is a capital measurement system that has been progressively introduced into Australia and every other country that has an active international bank. As Charles Littrell observes: "This accord proved successful in lifting bank capital levels around the world, including Australia. Today the world's internationally operating banks are as a group far sounder than was the case in 1988, and the first capital accord can claim some of the credit for this outcome. There is also a much more level playing field as regards regulatory capital requirements for internationally operating banks."<sup>136</sup>



In 1997, the Basel Committee developed a set of Core Principles for Effective Banking Supervision, which provided a comprehensive blueprint for an effective supervisory system. The committee has since issued a proposal for a New Capital Adequacy Framework to replace the 1988 Accord and more recently has aggressively sought to promote sound supervisory standards worldwide.

*IOSCO.* The International Organization of Securities Commissions (IOSCO) was instituted in 1983.<sup>137</sup> IOSCO currently consists of 105 securities regulators and encompasses a much broader membership in terms of regulatory market development than the Basel Committee. ASIC is a founding member of IOSCO. ASIC is also an active member of the IOSCO Executive and Technical Committees. IOSCO's stated principles are "improving cooperation and coordinating and harmonization securities and futures regulations on the international level." IOSCO's members commit themselves to the following: (1) to cooperate in order to maintain fair and efficient markets; (2) to exchange information designed to further the development of domestic markets; (3) to establish standards and effective surveillance of international securities transactions; and (4) to provide mutual assistance for enforcement.

IOSCO also seeks to achieve regulatory harmonization through consensus, and in recent years it has increased its efforts to reach agreements on specific regulatory standards. In 1986, IOSCO issued a Resolution Concerning Mutual Assistance that calls upon all securities regulators to provide assistance on a reciprocal basis for obtaining information related to market supervision and its integrity.<sup>138</sup> IOSCO has since developed a Multilateral Memorandum of Understanding (MMOU), to which ASIC is a signatory. The MMOU has specific requirements about the type of information that signatories can access on request by other signatories for the purpose of enforcing their securities laws; applicants must effectively harmonize their laws to qualify as a signatory. IOSCO has also released its Objectives and Principles of Securities Regulation, which ASIC uses to ascertain whether a foreign regulatory regime is sufficiently equivalent to Australia's for the purposes of granting foreign financial service providers relief from licensing requirements. These thirty objectives and principles, together with the accompanying detailed methodology for assessing their implementation, provide detailed guidance on the key elements of a sound securities regulatory system. IOSCO has commenced a program to assess the implementation of these principles in member jurisdictions, provide technical assistance, and foster harmonization by addressing gaps and weaknesses.

#### *Joint Forum on Conglomerates*

Increasing globalization of the world's financial markets led the Basel Committee and IOSCO to establish the Joint Forum on Conglomerates in

1995.<sup>139</sup> The Joint Forum was established to address major supervisory issues relating to financial conglomerates that operate on an international basis. The Joint Forum is comprised of bank, insurance, and securities supervisors representing each supervisory constituency. The emergence of financial conglomerates and the blurring of distinctions between the activities of firms in each financial sector across borders have heightened the need for cooperative efforts to improve the effectiveness of regulatory policies and procedures. The Joint Forum's role is now being extended to deal more generally with cross-sectoral issues and other matters of mutual interest to the parent bodies.

The Joint Forum has produced five important papers for comment by the three founding bodies, covering coordination arrangements in routine and emergency situations, information flows between regulators in different countries, and technical issues such as regulatory capital requirements. ASIC is an active participant in the Joint Forum and currently chairs a Working Group on Outsourcing. APRA also participates in the work of the Joint Forum. Alan Cameron, the chairman of ASIC from 1993 to 2000, chaired the Joint Forum in 1997. Upon his appointment, Mr Cameron said: "My appointment recognizes the ASIC's contribution and the fact that Australian regulators have been at the forefront of developing cooperative arrangements. The need for effective arrangements of this kind and for Australia to actively participate in international developments were key themes in the Wallis Committee report into the Australian financial system."

*Harmonization of international accounting standards.* On March 31, 2004, the Australian Financial Reporting Council, the statutory body that oversees the process of setting accounting standards, ratified a proposal to adopt the International Financial Reporting Standards (IFRS)<sup>140</sup> in Australia on January 1, 2005.<sup>141</sup> The IFRS are a set of core accounting standards that create an internationally harmonized financial reporting regime. The mission of the International Accounting Standards Board, which is the body that sets accounting standards, is to create a "single set of high quality global standards."<sup>142</sup> By January 1, 2005, it is expected that nearly a hundred countries will either be using the IFRS or aligning their national standards with the IFRS.

The Australian body responsible for setting accounting standards, the Australian Accounting Standards Board (AASB), pursues a policy of international convergence and international harmonization of accounting standards. It justifies this by stating, "There is considerable divergence between standards issued by national and international standard-setting bodies. The globalization of economic activity has resulted in an increased demand for high quality, internationally comparable financial information."<sup>143</sup>

The AASB sees the five main objectives of international convergence and harmonization as the following:

1. Increasing the comparability of financial reports prepared in different countries and providing participants in international capital markets with better quality information on which to base investment and credit decisions. It will also reduce financial analysis costs through analysts not having to recast information on a common basis and requiring knowledge of only one set of financial reporting standards, rather than several;
2. Removing barriers to international capital flows: by reducing differences in financial reporting requirements for participants in international capital markets and by increasing the understanding by foreign investors of Australian financial reports;
3. Reducing financial reporting costs: for Australian multinational companies and foreign companies operating in Australia and reporting elsewhere;
4. Facilitating more meaningful comparisons of the financial performance: and financial position of Australian and foreign public sector reporting entities; and
5. Improving the quality of financial reporting in Australia to best international practice.<sup>144</sup>

The Financial Reporting Council's decision to adopt the IFRS supports financial consolidation. Cross-border consolidation and global expansion are common forces affecting the financial system. Whether this manifests in new institutions entering Australia or Australian firms branching abroad, a regime of universal accounting standards benefits the market, as reflected in the following comments of Paul Volcker, chairman of the Trustees International Accounting Standards Committee Foundation at the European Commission: "The general case for international accounting standards has been clear for a long time. In a world of global finance, we have a strong interest in encouraging high-quality standards in every place our companies do business. We want to avoid distortions in the international flow of capital because of misinformation or lack of information. Not least, a single set of standards would minimize compliance costs for companies and, I believe, assist enforcement."<sup>145</sup>

#### *Bilateral Harmonization*

Australia has played a particularly active role pursuing regulatory harmonization through mutual recognition with New Zealand. Mutual recognition affords financial products and financial institutions free transit across national boundaries but depends upon separate jurisdictions being able to make a meaningful comparison of their separate laws on the basis of substance over form. Such an analysis may lead to an understanding that relevant provisions are sufficiently aligned to facilitate the recognition of laws,

policies, and procedures governing the operation of securities markets in the two countries.

The limitation of mutual recognition is that it also depends upon harmonized regulatory standards. Clearly one of the principal difficulties for entities operating in a multijurisdictional environment, such as Australia and New Zealand, is that they are confronted with a plethora of different laws, policies, and procedures governing the transactions in which they may be involved. The concept of harmonization, in conjunction with cross-border regulatory cooperation, has therefore been lauded as the answer.

### **Cross-Border Regulatory Cooperation**

The key limitation on harmonization of standards from the perspective of the consumer is that national regulators cannot easily enforce harmonized standards and consumers cannot take action to assert their rights in any practical sense. For this reason, cross-border regulatory cooperation is crucial to preserving consumer confidence in the global financial market. ASIC and numerous foreign regulators use memoranda of understanding and a mutual assistance regulatory regime to foster cooperation between regulators, particularly in the area of investigation and enforcement. Where appropriate, ASIC will also defer, in the interests of comity and the attainment of regulatory objectives, to the application of laws and regulations of a foreign state to its markets, financial service providers, and collective investment schemes through unilateral and mutual recognition.

#### *Enforcement Cooperation and Joint Investigations: Rentech Case Study*

ASIC has entered into twenty-four bilateral memoranda of understanding with foreign regulators.<sup>146</sup> MOUs are statements of intent between regulators, reflecting a willingness to cooperate on mutually accepted terms in respect of information exchange, investigative assistance, and regulatory matters generally. As discussed, ASIC is also a member of the IOSCO Multilateral Memorandum of Understanding. While bilateral arrangements have been the norm, this multilateral approach is a first for securities regulators and sets a new international benchmark for cooperation. Australia's mutual assistance regulatory regime enables ASIC to cooperate and render assistance to foreign regulators and is empowered to release confidential information to foreign regulators that will enable or assist a government or an agency of a foreign country to perform a function or exercise a power, conferred by a law in force in that foreign country, pursuant to section 127(4) of the Australian Securities and Investments Commission Act 2001.<sup>147</sup>

Joint investigations and surveillance activities are the manifestation of cross-border regulatory cooperation. The story of Rentech is the quintessential example of cross-border enforcement in the context of the global environment. Rentech concerns a joint investigation undertaken by ASIC and the U.S. Securities and Exchange Commission (SEC). It demonstrates

how cross-border cooperation is becoming an essential enforcement tool and the real value in memoranda of understanding in conducting joint investigations between jurisdictions.

In May 1999, messages about a company called Rentech were posted on Internet bulletin boards in the United States, including those operated by Yahoo! and Raging Bull. The messages stated that the price of Rentech stock would increase from the existing price of around US\$0.33 to US\$3.00, once pending patents were released by the company. At about the same time, Australians Steven Hormouzis and Wayne Loughnan sent 4 million spam e-mails to people in the United States, Australia, and other parts of the world. The e-mail similarly claimed that the price of Rentech stock would increase by up to 900 percent in the next few months. Indeed, ASIC's Internet manager also received an e-mail from the pair. Hormouzis and Loughnan sent many emails by interfering with the file servers of organizations such as SAAB Automobile Australia, the Tasmanian Department of Health and Human Services, and the Lost Dogs' Home.

The first trading day after the e-mails were sent and the bulletin board messages posted, the NASDAQ share price of Rentech doubled and the trading volume was more than ten times the previous month's average trading volume. Three days before despatching his messages, Hormouzis purchased 65,500 Rentech shares through brokers Wolverton Securities in Canada. On the first day of trading, Hormouzis dumped his shares on the market, making a profit of approximately A\$17,000. Hormouzis paid Loughnan A\$7,000 for his help with the computer file servers.

The SEC launched an investigation into the manipulation of Rentech's common stock and asked ASIC to assist; the conduct of Hormouzis and Loughnan appeared to breach both U.S. federal securities laws and the existing Australian Corporations Law. The SEC's inquiries established that the spam e-mails and bulletin board postings both emanated from accounts held with Internet service providers in Australia. ASIC received a written request for assistance from the SEC pursuant to our bilateral memorandum of understanding. The SEC provided a transcript of Rentech's testimony. ASIC determined that the conduct breached several sections of Australia's Corporations Law, including Australia's securities licensing provisions, and therefore commenced an investigation. Twenty charges were laid against Hormouzis and Loughnan in Australia relating to false and misleading statements and fraudulently inducing persons to deal in securities. Hormouzis pleaded guilty and was sentenced to two years in jail, with a minimum of three months to be served. His partner Loughnan also pleaded guilty, paid back his profits, and received a suspended two-year jail sentence.

ASIC's experience during this investigation identified issues relating to mechanisms for cooperation, releasing information, contacting witnesses, good communication, and timeliness; that arise in the course of con-

ducting joint investigations. Like many of the matters ASIC is now required to investigate, these issues are novel and complex, but they are being made easier by effective use of the above-described legislative and procedural tools that are available in Australia, plus an increasing emphasis on international cooperation between law enforcement agencies, regulators, and exchanges.

### *Recognition of Foreign Regulatory Systems*

Looking farther forward, increasing cross-border financial activity will drive regulators to rely more on foreign regulators to oversee the activities of their licensed financial intermediaries in the interests of not only local investors and market integrity but also in the interests of global investors and global market integrity. The banking system adapts, to a degree, a lead regulator approach for globally operating banks. In the future it may be necessary for securities regulators to consider a similar approach.

Australia has taken some steps along this path. Where appropriate, ASIC will defer to the application of laws and regulations of a foreign state to its markets, financial service providers, and collective investment schemes through unilateral and mutual recognition. Unilateral recognition arrangements are provided for in Australia's licensing regime. Australia will unilaterally recognize the laws and regulations of a foreign state that apply to foreign financial service providers,<sup>148</sup> foreign markets,<sup>149</sup> and collective investment schemes,<sup>150</sup> where the foreign regulatory regime is considered sufficiently equivalent and has effective cooperation arrangements with Australia.

A foreign regulatory regime will be regarded as sufficiently equivalent to regulation by ASIC if the regime is clear, transparent, and certain; is consistent with the IOSCO Objectives and Principles of Securities Regulation; is adequately enforced in the home jurisdiction; and achieves similar outcomes to those achieved by the Australian regime. Effective cooperation arrangements will usually be in the form of a MOU, most importantly the IOSCO MMOU. Effective cooperation arrangements will provide for prompt sharing of information by the overseas regulatory regime and effective cooperation on supervision, as well as investigation and enforcement. Where these criteria are met, ASIC's policy is to allow foreign licensed firms and operators to offer their services within Australia without having to comply separately with many of ASIC's regulatory requirements. This policy recognizes that there is little regulatory benefit in requiring a global firm to comply both with its home regulatory requirements and with ASIC's where their regulatory objectives and regimes are essentially the same.

## **Conclusion**

This essay has explored Australia's regulatory response to financial consolidation in the context of globalization. Interestingly, we find that regulatory reform is both driven by and a driving force for financial consolidation in this country.

There is no doubt that financial consolidation and associated changes in financial market structure were a significant impetus for the Australian government in embarking on regulatory reform in Australia, both in terms of the architecture of the regulatory institutions and their specific functions and powers. In particular, the adoption of the twin peaks regulatory model and the creation of a streamlined licensing and disclosure regime for financial products were driven by a belief that these reforms were necessary to take account of changes in the financial services landscape, especially the effects of globalization and financial consolidation. That regulatory reform—in particular the creation of the uniform licensing and disclosure regime—has also provided opportunities for further financial consolidation, challenging our underlying assumption that regulatory and legislative changes lag well behind institutional change.

In Australia, financial consolidation was to some extent caused by deregulation and liberalization in the 1980s. Deregulation was a catalyst for financial consolidation within the banking sector. Financial deregulation also spawned new, consolidated financial institutions that provided nonbanking services. Significant structural reform in the 1990s, which instituted an integrated twin peaks approach to regulation in Australia and the financial services reforms in the new millennium, seems to have accelerated and provided greater opportunities for further financial consolidation in Australia.

The history of Australia's regulatory reform and the Australian regulatory regime, which is now in place, reflects a recognition of the importance of financial consolidation to the Australian business and regulatory environment. But just as financial consolidation has changed our thinking about how we regulate the Australian market, so too does globalization and cross-border consolidation challenge how we as regulators seek to influence global markets and operators. Increased convergence and harmonization of regulatory standards are important trends and policy directions that will help to ensure a more consistent global approach to regulating financial conglomerates. This is being achieved through multilateral forums such as IOSCO, the Basel Committee, and the joint Forum on Conglomerates. Cross-border cooperation, through enforcement cooperation, joint investigations, and the recognition of foreign regulatory regimes will also help regulators such as ASIC achieve regulatory objectives that know no national nor institutional boundaries.

## Notes

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1. For more information on ASIC, see <http://www.asic.gov.au/>.
2. "The New Australian Securities and Investments Commission (ASIC): Future Directions and Challenges," an address by Alan Cameron AM, chairman, Australian Securities Commission, to the Chartered Institute of Company Secretaries, Sydney, April 30, 1998.
3. William B. English, "Financial Consolidation and Monetary Policy," *FRBNY Economic Policy Review* 8 (April 2001).
4. For more information on the Australian Competition and Consumer Commission, see <http://www.accc.gov.au/>.
5. For more information on the Australian Foreign Investments Review Board, see <http://www.firb.gov.au/>.
6. Elisa Bain and Ian Harper, "Integration of Financial Services: Evidence from Australia," *North American Actuarial Journal* 4:4 (2000), 16.
7. Kenneth K. Mwenda and Alex Flemming, "International Developments in the Organizational Structure of Financial Services Supervision," a paper presented at a seminar hosted by the World Bank Financial Sector Vice-Presidency on September 20, 2001, p. 6.
8. The term "functional" is used in Australia to refer to regulatory functions such as consumer protection, market integrity, and prudential regulation or systemic stability. This is in contrast to the United States, for example, where the term "regulatory functions" refers to activities such as banking and insurance. Jeffrey Carmichael, "Experiences with Integrated Regulation," *The Financial Regulator* 57 (2001), 59.
9. Michael Taylor, "'Twin Peaks': A Regulatory Structure for the New Century," Center for the Study of Financial Innovation, London, 1995, p. 5.
10. Stan Wallis (chairman), *The Financial System Inquiry Final Report*, Australian Government Publishing Service, Canberra, 1997, p. 346. The Financial System Inquiry (also known as the Wallis Inquiry) was conducted in 1996. Stan Wallis chaired the inquiry and Bill Beerworth, Jeff Carmichael, Ian Harper, and Linda Nicholls made up the committee. The inquiry produced this final report in March 1997 (also known as the Wallis Report). References from this point on to the inquiry and report will be designated the Wallis Inquiry and Wallis Report, respectively.



11. Australia, Canada, Denmark, Estonia, Hungary, Iceland, Korea, Latvia, Luxembourg, Malta, Mexico, Norway, Singapore, Sweden, and the United Kingdom.
12. José de Luna Martínez and Thomas A. Rose, "International Survey of Integrated Financial Sector Supervision," World Bank Policy Research Working Paper 3096, July 2003.
13. The four pillars are the Commonwealth Bank of Australia, National Australia Bank, Australia and New Zealand Banking Group, and Westpac Banking Corporation.
14. Bain and Harper, n 6, p. 5.
15. Council of Financial Regulators 1998, p. 17 as cited in Bain and Harper, n 6, p. 5.
16. APRA, *Australian Banking Statistics*, March 2002, <http://www.apra.gov.au/Statistics/Australian-Banking-Statistics.cfm>, accessed 06/29/04.
17. IFSA, *Australia's Fund Management Industry*, September 2003, <http://www.ifsa.com.au/IFSAWeb/IFSAPubl.nsf/HeadingPages-Display/About+Our+IndustryStatistics+on+the+Industry?OpenDocument&ML>, accessed 06/29/04.
18. Westpac Banking Corporation Ltd, *Annual Financial Report 2003*, <http://www.westpac.com.au/>, p. 61.
19. For further discussion of Australia's financial services licensing requirements, see *infra* 2.3 Financial Services Reform: A Universal licensing and disclosure regime, p. 102.
20. "Managed investments scheme" is the term used in Australia for a collective investment scheme or mutual fund.
21. By market capitalization (\$43 billion: Aspect Financial).
22. In terms of total Australian-sourced funds under management, as at September 2003. IFSA, n 17.
23. In terms of total premiums (Australian business) in June 2003: Australian Prudential Regulation Authority, <http://www.apra.gov.au/>.
24. For example, deregulation in the banking sector ended most controls over banking lending and permitted the entry of foreign banks. The system was liberalized in several respects: entry of domestic and foreign enterprises became easier (and domestic firms have moved offshore), increased capital mobility meant funds could move more freely between Australian and overseas financial markets, and both businesses and consumers could obtain financial services on a global basis. See Bain and Harper, n 6, pp. 1–2. Technology such as systems for processing, communicating and storing information, made it easier to access markets and products both domestically and internationally. Wallis, n 10, p. 4.
25. Martínez and Rose, n 12, p. 10.

26. David Held et al, *Global Transformations: Politics, Economics and Culture*, Stanford University Press, Stanford, 1999, pp. 415–416.
27. The guilds were responsible for regulating of ethics, price, interest rates, professional qualifications and other trade standards. See Braithwaite and Drahos, 1999, p. 36.
28. Held, n 26, p. 420.
29. Andrew Crockett, "How Should Financial Market Regulators Respond to the New Challenges of Global Economic Integration?" Commentary, Federal Reserve Bank of Kansas City, August 2000, p. 1.
30. Held, n 26, pp. 422–424.
31. This is discussed in detail in Part III: Trends and Policy Directions, p. 104.
32. Wallis, n 10.
33. Peter Day, Deputy Chair of ASIC, "Managing Regulation in the Global Market Place," an address to the Group of 100 National Congress, Sydney, September 9, 1998, p. 3.
34. Australian Bureau of Statistics, *Time Series Spreadsheet: Managed Funds Australia*, Table 1b Managed Funds, consolidated assets by type of asset (\$m), <http://www.abs.gov.au/Ausstats/abs@.nsf/lookupresponses/c95ad056f44b3272ca25688d001b728e?opendocument> accessed 29/06/04.
35. APRA, *List of Authorized Deposit-Taking Institutions*, <http://www.apra.gov.au/adi/ADIList.cfm> - FSB.
36. Financial Sector Advisory Council, *Review of the Outcomes of the Financial System Inquiry 1997*, August 2003.
37. Some of Australia's largest listed companies, such as the National Australia Bank, Australia and New Zealand Banking Group Limited, and Westpac Banking Group are among the thirteen dual entities trading both on the Australian Stock Exchange and the New York Stock Exchange. Source: New York Stock Exchange as at 2 June 2004. The ASX has created the Trans Tasman 100 Index (an aggregated measure of the top 100 listed companies in Australia and New Zealand), and the ASX Asia Index (an aggregate measure of thirty listed companies that are principally based and operate in Asia). These indexes allow for more relevant comparison of companies at a regional level and clearly indicate that many companies operate in more than one country. For more information on the ASX, see <http://www.asx.com.au/>.
38. As of September 30, 2003, the ASX was ranked eighth in the world in the MSCI World Index. This represents a weighting of 2.08 percent. Other markets that are ranked higher than ASX are: 1. USA 56.17 percent; 2. UK 10.66 percent; 3. Japan 9.53 percent; 4. France 3.85 percent; 5. Switzerland 3.07 percent; 6. Canada 2.61 percent; 7. Germany 2.55 percent.

39. When the ASX-SGX link commenced operations, there were fifty listed companies that could be traded from each market. On March 31, 2003, this number had already doubled to 100 Australian stocks and 100 Singapore stocks available for trading via the link.
40. Financial Sector Advisory Council, *Review of the Outcomes of the Financial System Inquiry 1997*, August 2003.
41. The Hon. Joe Hockey, MP, "Address to the Committee for Economic Development of Australia," February 11, 2000.
42. IOSCO, *Objectives and Principles of Securities Regulation*, <http://www.iosco.org/pubdocs/pdf/IOSCOPD154.pdf> accessed 29/06/04, paragraph 4.1.
43. Section 1(2) of the Australian Securities and Investments Commission Act 2001.
44. Crockett, n 29.
45. *Ibid.*
46. Harold D. Skipper Jr., "Financial Integration Worldwide: Promises and Pitfalls," OECD Insurance and Private Pensions Compendium, 2000, p. 21.
47. Fred Furlong, "The Gramm-Leach-Bliley Act and Financial Integration," Federal Reserve Bank of San Francisco, March 2000, p. 1.
48. *Oxford English Dictionary*, Oxford Reference Shelf, Oxford University Press, March 1994.
49. Haibin Zhu, "Credit Constraints, Financial Liberalization and Twin Crises," Bank of International Settlements Working Paper 124, January 2003.
50. Wallis, n 10, p. 567.
51. Wallis, n 10, p. 579.
52. Kent and Debelle, "Trends in the Australian Banking System: Implications for Financial System Stability and Monetary Policy," Research Discussion Paper, Reserve Bank of Australia, 1999, p. 11.
53. Wallis, n 10, p. 580.
54. Wallis, n 10, p. 581.
55. Bain and Harper, n 6, p. 9. Sourced from the Reserve Bank of Australia.
56. Wallis, n 10, p. 582.
57. Wallis, n 10, p. 579.
58. Wallis, n 10, p. 562.
59. Kent Griffin, "The Retail Banking Industry in Australia," Institute of Actuaries of Australia, Sessional Papers, September/October 1996, pp. 13-14.
60. Wallis, n 10, p. 590.
61. APRA, *List of Authorized Deposit Taking Institutions*, June 2004, <http://www.apra.gov.au/adi/ADIList.cfm> accessed 29/06/04.
62. Wallis, n 10, p. 585.

63. Wallis, n 10, p. 5.
64. Bain and Harper, n 6, p. 3.
65. Australian Financial Markets Association, *Australian Financial Markets Report* (2001), <http://www.afma.com.au/afma:AFMR> accessed 29/06/04.
66. *Ibid.*
67. Australian Financial Markets Association, n, 66, p. 42.
68. Bain and Harper, n 6, p. 10.
69. Wallis, n 10, p. 593.
70. Kent and Debelle, n 52, p. 6.
71. "Overseas assets comprise the second largest share of superannuation assets with 17.6 percent of total superannuation assets at the end of December 2003. They increased by 2.0 percent in the December quarter and now total \$99.4 billion." APRA, Superannuation Trends December 2003, <http://www.apra.gov.au/Statistics/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=7001> accessed 29/06/04.
72. APRA n 71.
73. Colonial itself had been an active participant in financial consolidation. Traditionally, Colonial was a life insurer and fund manager. In 1994, Colonial purchased the State Bank of NSW. The merger represented the unification of Australia's third-largest insurance group with the fifth-largest bank (Bain and Harper, n 6, p. 6).
74. Wallis, n 10.
75. Many of which are available at the Financial System Inquiry's website: <http://fsi.treasury.gov.au/content/default.asp>.
76. Wallis, n 10, p. 5.
77. Alan Cameron, former chairman of ASIC, "The Globalization of the Securities Market," an address to the Seminar on the Globalization of Securities, Allen Allen & Hemsley, Sydney, August 16, 1999, p. 12.
78. Alan Cameron, "Not Another Regulator!" an address to the Suncorp-Metway Bob Nicol Memorial Lecture, Brisbane, November 10, 1998, p. 24.
79. Cameron, n 78, p. 24.
80. Bain and Harper, n 6.
81. Cameron, n 78, p. 22.
82. For more information on the ACCC, see <http://www.accc.gov.au/>.
83. The APSC was replaced by the Payments System Board (PSB) of the Reserve Bank of Australia in 1998.
84. For more information on the RBA, see <http://www.rba.gov.au/>.
85. Taylor, n 9.
86. For more information on APRA, see <http://www.apra.gov.au/>.

87. The Reserve Bank of Australia was given responsibility for overall safety, including monetary policy, financial system stability, and the regulation of the payments system.
88. For example, prior to the reforms banks were only subject to the authority of the RBA. Now they are subject to the regulation of both APRA and ASIC.
89. APRA, *2003 Annual Report*, <http://www.apra.gov.au/aboutApra/> accessed 29/06/04. This is based on the HIH liquidator's advice to creditors in April 2002.
90. For more information on the HIH Royal Commission, see <http://www.hihroyalcom.gov.au/>.
91. A consolidated text, prepared by the Royal Commission, representing the terms of reference as issued on 29 August 2001 and amended on 6 February 2002, 2 May 2002 and 23 January 2003 at paragraph (c).
92. Press Release no. 020, 16 April 2003.
93. APRA, n 89, p. 5.
94. *Ibid.*
95. Report of the HIH Royal Commission, *The Failure of HIH Insurance*, Volume 1, Part 3.
96. Financial Sector Advisory Council, n 40, p. 9.
97. Martinez and Rose, n 12, p 2.
98. *Ibid.*
99. Eilis Ferran, "Examining the United Kingdom's Experience in Adopting the Single Financial Regulator Model," 28 *Brook J. Int'l L* 257, p. 277.
100. Wallis, n 10, p. 545.
101. Taylor, n 9, p. 16.
102. Taylor, n 9, p. 15.
103. In Australia, the overseeing body is the Federal Treasury. For more information on Treasury, see <http://www.treasury.gov.au/>.
104. Taylor, n 9, p. 15.
105. Wallis, n 10, p. 564.
106. Information on the Autorité des Marchés Financiers is at <http://www.amf-france.org> accessed 29/06/04.
107. Jean-Claude Desespaul, *Challenges for the Unified Financial Supervision in the New Millennium*, 4 July 2001, <http://www.fin.ee/index.php?id=3528> accessed 29/06/04.
108. Known as the *loi de sécurité financière*.
109. The AMF is a conglomeration of three institutional regulators that previously operated: the Commission des Opérations de Bourse (COB), the Conseil des Marchés Financiers (CMF), and the Conseil de Discipline de la Gestion Financière (CDGF).
110. The Commission Bancaire is responsible for prudential control of credit institutions, investment services, markets, and asset managers.

111. The Parliament of the Commonwealth of Australia, Financial Services Reform Bill, Explanatory Memorandum, paragraph 1.5.
112. Wallis, n 10, p. 261.
113. Wallis, n 10, p. 271.
114. Section 911A of the Corporations Act 2001.
115. Part 7.6 of Chapter 7 of the Corporations Act also has a general requirement under section 911A(1), that if a financial services provider is “*carrying on a financial service business*” in Australia then it will be required to obtain an Australian Financial Services license (AFSL). Under section 911D, a “financial service business” is taken to be carried on in Australia if a person engages in conduct that is intended to induce people in this jurisdiction to use the financial services they are offering, or if their activity is likely to have that effect. This test is inclusive; this is not limited to the circumstances specified in section 911D. Section 911A(2)(l) provides ASIC with a general exemption power from the licensing regime. Against this legislative background, ASIC has developed a series of policies and principles to grant exemptions to foreign financial service providers, collective investment schemes, and markets that facilitate cross-border financial consolidation and the provision of cross-border financial services within the context of globalization.
116. The term “financial product” is extensively defined (see ss 762A to 765A of the Corporations Act 2001). This includes a general definition of financial product (section 763A Corporations Act 2001) and a specific definition stating what products are financial products (section 764A Corporations Act 2001). Specifically included financial products include Securities—a share in a body, a debenture in a body, any legal or equitable right over a share or debenture, and an option to acquire a share or debenture; managed investment schemes; derivatives; general and life insurance; superannuation; deposit-taking facilities; and a foreign exchange contract that is not a derivative or a contract to exchange one currency for another that is to be settled immediately (section 764A Corporations Act 2001); and specific exclusions stating what products are not financial products (section 765A Corporations Act 2001). The general definition provides that a financial product is a facility through which a person does one or more of the following: makes a financial investment, manages financial risk, or makes non-cash payments.
117. Also known as pension funds.
118. Sharon Horgan, *Horgan’s Law of Financial Services*, Lawbook Co., Sydney, 2003, p. 5.
119. An example is in relation to stored value cards and noncash payment facilities. See two relevant ASIC Information Releases, both available on the ASIC web site under Media and Information Releases: IR 04-

- 06, "ASIC Guidelines for Interim Relief for Loyalty Schemes" and IR 04-07, "ASIC Guidelines for Interim Relief for Low-Value Noncash Payment Facilities."
120. Section 1012A(3) of the Corporations Act 2001.
121. Wallis, n 10 as cited in "Explanatory Memorandum to Financial Services Reform Bill," paragraph 2.2.
122. The Parliament of the Commonwealth of Australia, House of Representatives, *Financial Services Reform Bill 2001*, "Explanatory Memorandum," paragraphs 2.20, 2.21.
123. For more information on ASIC's licensing and disclosure regime, see ASIC's licensing home page at: [http://www.asic.gov.au/asic/asic\\_polprac.nsf/byheadline/Licensing?openDocument](http://www.asic.gov.au/asic/asic_polprac.nsf/byheadline/Licensing?openDocument).
124. Dr. George Gilligan, "Current Developments and Notes: International Trends in the Regulation of the Financial Services Sector," 14 *AJCLR* 4 (2002), p. 18.
125. David Andrew Singer, "Capital Rules: The Domestic Politics of International Regulatory Harmonization," *International Organizations* 58:3, 531-565.
126. Singer, n 125, pp. 1, 40.
127. Singer, n 125, p. 3.
128. Gilligan, n 124, p. 18
129. Axiss Australia, *International Financial Markets Integration: The Case of Equity Markets*, February 2004. For more information on Axiss Australia, see <http://www.axiss.com.au/>.
130. Singer, n 125, p. 41.
131. *Ibid.*
132. *Ibid.*
133. For more information on the Basel Committee on Banking Supervision, see <http://www.bis.org/bcbs/>.
134. That is, Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, United Kingdom and the United States.
135. The Basel Committee on Banking Supervision, *About the Basel Committee*, <<http://www.bis.org/bcbs/aboutbcbs.htm>> accessed 29/06/04.
136. Speech by Charles Littrell, 17 October 2003, "Basel II in the Australian Context."
137. For more information on IOSCO, see <http://www.iosco.org/>.
138. ESCR Center for Business Research, *The International Supervisory Framework for Financial Services: An Emerging International Legal Regime*, University of Cambridge, December 1997, p. 8.
139. For more information on the Joint Forum on Conglomerates, see either the Basel or IOSCO websites.

140. Formerly known as the International Accounting Standards.
141. Financial Reporting Council, *Bulletin of the Financial Reporting Council 2004/3*, April 2004  
[http://www.frc.gov.au/content/Bulletins/bull\\_2004\\_3.asp](http://www.frc.gov.au/content/Bulletins/bull_2004_3.asp) accessed 29/06/04.
142. Its major task has been to create accounting standards that could facilitate the European Commission's proposal that, from 1 January 2005, all listed companies in the Eurozone would adopt the then thirty-four International Accounting Standards. International Accounting Standards Board, *Annual Report 2003*, <http://www.fasb.org/> accessed 29/06/04, p. 5.
143. Australian Accounting Standards Board, *AASB Policy Statement 4: International convergence and Harmonization Policy*, April 2002, [http://www.aasb.com.au/public\\_docs/policy\\_statements/ACCPS4\\_4-02.pdf](http://www.aasb.com.au/public_docs/policy_statements/ACCPS4_4-02.pdf) accessed 29/06/04, p. 6.
144. Australian Accounting Standards Board, n 143, p 7.
145. Paul Volcker, "Accounting in Crisis," address to the European Commission, March 6, 2002.
146. Financial Services Authority (FSA) of the United Kingdom; Securities and Futures Commission of Hong Kong; Securities & Exchange Commission of the United States of America; Securities Commission of New Zealand; Commission des Operations de Bourse of France; Ontario Securities Commission; British Columbia Securities Commission; China Securities Regulatory Commission; Commission des Valeurs Mobilières de Quebec; Alberta Securities Commission; Capital Market Supervisory Agency of Indonesia; Securities & Exchange Commission of Thailand; Comissão de Valores Mobiliários of Brazil; Bundesaufsichtsamt für den Wertpapierhandel of Germany; Securities Commission of Malaysia; Commissione Nazionale per le Società e la Borsa of Italy; Securities Commission of Papua New Guinea; Financial Services Board; Comisión Nacional del Mercado de Valores; Monetary Authority of Singapore; Comissão Nacional de Valores Mobiliários of Portugal; Capital Markets Board of Turkey; Commodity Futures Trading Agency of Indonesia; and the Securities and Exchange Commission of Sri Lanka.
147. ASIC can assist foreign regulators to administer and enforce foreign business and criminal through the Mutual Assistance in Business Regulation Matters Act 1994 (MABRA) and the Mutual Assistance in Criminal Matters Act 1987 (MACMA), respectively.
148. Licensing – Discretionary Powers: Wholesale Foreign Financial Service Providers (Policy Statement 176): This policy is designed to facilitate entry to the Australian market by a foreign financial service provider that wishes to provide financial services only to wholesale clients. The policy outlines when ASIC may grant relief from the



AFSL obligations by recognizing an overseas regulatory regime that meets an “equivalence test.” The equivalence test involves demonstrating that the overseas regulatory regime delivers sufficiently equivalent outcomes to the Australian regulatory regime and that ASIC has effective cooperation arrangements with the overseas regulatory authority. For more information on ASIC’s policy statements, see n 1.

149. Australian Market Licenses – Overseas Operators (Policy Statement 177): This policy addresses how ASIC will regulate overseas markets that wish to operate in Australia. The concept of a “market” is very broad under the amended Corporations Act. Accordingly, in Australia certain activities might be regulated as a *financial market*, where they would typically be regulated as a *financial service* in a foreign jurisdiction (eg. some order-routers). Therefore, this policy outlines ASIC’s approach to the specialized provisions for granting a license to overseas providers under section 795B(2) of the Corporations Act. For more information on ASIC’s policy statements, see n 1.
150. Foreign Collective Investment Schemes (PS 178): This policy addresses the way ASIC intends to regulate foreign collective investment scheme operators that seek to attract Australian investors by balancing domestic demand for access to overseas investments with the need for adequate investor protection. Relying on the general exemption and modification powers under section 911A(2)(l) of the Corporations Act, this policy proposal sets out how ASIC will provide relief for operators of foreign collective investment schemes that are positively authorized in other jurisdictions and wish to offer interests in the foreign collective investment scheme directly to clients in Australia. Again, a fundamental feature of this relief is the sufficiently equivalent regulation of the foreign collective investment scheme in its home jurisdiction. For more information on ASIC’s policy statements, see n 1.

## **4. A Japanese Perspective on Regulatory Reform in the Financial Sector**

Hideki Kanda

### **Introduction**

The legal and regulatory landscape in the Japanese financial sector has been—and is—experiencing a rapid change. This is no surprise, because information technology and global competition have made this area highly erratic, and corresponding legal and regulatory responses are called for almost every day.

It is not easy to present the trends in this area of law and regulation in recent years in distinctive terms, but three elements can be pointed out as general characteristics behind the recent developments. First, in Japan, the force for change in regulation can still be viewed as a result of domestic events. Since the “bubble” burst in 1991, the Japanese banking sector has been suffering a crisis. Over twenty banks have gone bankrupt, and various rescue measures are still underway today. Second, pressure from outside Japan has also begun to influence rule making and change in the Japanese financial sector. It is common for various international standards to be developed at various levels. These standards, unlike traditional treaties or conventions, are not law in themselves, but national regulators or supervisors generally implement these rules into national regulations so that these “soft” standards often become “hard” rules in individual countries. Third, the importance of private law is ever increasing. This may be a natural result of deregulation, because market participants now have more freedom in creating and offering financial products than ever, so that basic private law issues become the subject of direct attention when such new financial products are created and marketed.

In this essay, I divide my discussion into four parts: (1) a survey of Japan’s Big Bang and reform process for modernizing its regulatory system; (2) a discussion of the political economy in the reform process in Japan; (3) a survey of issues currently under discussion for future challenges; and (4) an examination of the “Japanese” model of reform and its implications from a comparative perspective.

In the first section, I describe the highlights of Japan’s Big Bang and reform process for modernizing its regulatory system. I outline major reforms that have been undertaken since 1996 and their impact on market practice in the financial sector. While the major focus of my presentation is deregulation in various areas in the financial sector, particularly in the field of capital markets (such as broker competition, stock exchanges,

mutual funds, asset securitization, and antimonopoly regulation), I also briefly mention measures that have been taken to resolve the banking crisis.

In the next section, I briefly examine political economy in the financial reform of Japan. Who has taken the lead, who has opposed the process, and how various interests have been accommodated are examples of major inquiries in this section. In particular, the role of bureaucracy and the political power of the relevant industries are examined. I try to present a general theory as to when reform turns out to be a success (or failure).

In the following section, I address current issues under discussion for future reform. Issues relating to the establishment of comprehensive financial services legislation, as well as various bills under discussion in the Diet, are given a particular focus. Items here include restructuring the Securities and Exchange Act, introducing administrative penalties in securities law, reform of publicly sponsored financial institutions, and an overhaul of trust business regulation.

Next I examine the “Japanese model” from a comparative perspective (if such exists). I take a few specific examples, such as full protection of “payment and settlement bank deposits” and securities settlement system reform, which provide unique rules in Japan.

Finally, I present my preliminary conclusion. Overall, I try to present a theme underlying reform in the financial sector in Japan. My basic argument is that unique developments in Japan are producing nonunique results and that we see different forms of response to common problems in modern financial regulation.

## **Japan’s Big Bang Reform**

### **Background**

The “bubbles” in the Japanese stock and real estate markets burst in 1991. Stock prices dropped more than 60 percent between 1991 and 1995, and land prices recorded a similar drop, driving the Japanese economy into recession. As a result, financial institutions and financial markets in Japan lost their competitiveness. In Japan, the process of deregulation and appropriate responses to the rapidly changing environment in world financial markets have been delayed because the Diet and the government had to spend, and are still spending today, an enormous amount of time attempting to resolve the banking crisis. The Big Bang program, which was announced by the prime minister in November 1996, is aimed at remedying this delay and has two notable characteristics: (1) Its reforms are drastic and extensive in scope, and (2) the timetable is specific and quick.

### **Selected Items of the Big Bang Reform before 2000**

While this is hardly the place to describe in detail the entire content of the Big Bang program, several items of the reform are worth mentioning.<sup>1</sup>

#### *Lifting the Ban on Pure Holding Companies (Effective December 1997 for Nonfinancial Firms and March 1998 for Financial Institutions)*

The Anti-Monopoly Act, which prohibited “pure holding companies” per se, was amended in 1997, and relevant statutes in the financial sector were amended in response to this change. A pure holding company is defined as a company in which more than half of the assets are comprised of shares of other companies. Thus, a financial group may emerge with a holding company structure where banking, insurance, and securities businesses are offered through subsidiaries under the centralized management of a holding company. In fact, Daiwa Securities Group established a holding company structure in April 1999. Also, a large bank holding company was established in September 2000 by three major banks: the Industrial Bank of Japan, Fuji Bank, and Daiichi Kangyo Bank. After this, many consolidations took place in the financial sector and as a result, several financial conglomerates are emerging in Japan.

#### *Establishment of New Regulatory Bodies (Effective June 22, 1998)*

In June 1998, a new agency called the Financial Supervisory Agency (FSA) was established and given power to regulate banks, securities firms, and insurance companies. This power was transferred from the Ministry of Finance to the FSA. In December 1998, a new agency called the Financial Reconstruction Commission (FRC) was established in addition to the FSA and made responsible for licensing and other regulatory activities in the financial sector. The FSA was responsible for implementing financial regulations. The creation of this new regulatory structure suggested that the style of financial regulation in Japan would change from consensus-based regulation to rule-based regulation. On July 1, 2000, the Planning Bureau of the Ministry of Finance and the FSA were consolidated into the Financial Services Agency (the new FSA). The FRC was abolished in January 2001.

#### *Abolishment of Fixed Commission System of Securities Brokers (Partly Effective April 1998 and Fully Effective October 1, 1999)*

Although the exact effect of this deregulation has not yet become entirely clear, this reform made the securities brokerage industry more competitive.

#### *Entry into Securities Business: From Licensing to Registration System (Effective December 1, 1998)*

The entry barriers became lower for the securities industry. This change accompanied the abolishment of the prohibition on securities firms engaging in nonsecurities activities. The number of securities firms has been increasing since this reform.

*Regulation of Proprietary Trading Systems (Effective December 1, 1998)*

A new regulatory framework for proprietary trading systems (PTSs) was introduced. Such systems typically undertake the matching of buy-and-sell orders via a computer network but do not amount to a securities exchange. Before the reform, the Japanese regulations did not include a regulatory framework for PTSs and only treated them as brokers. The new regulation requires authorization by the regulator, thus locating such systems between exchanges and brokers. The authorization standards were liberalized in 2001, and there are two types of PTSs today in Japan—one for shares and the other for debt securities.

*Sale of Mutual Funds by Banks (Partly Effective December 1997 and Fully Effective December 1, 1998)*

In 1998, only 4 percent of over U.S. \$10 trillion in individuals' financial assets in Japan were invested in Japanese mutual funds. Sixty-five percent of such assets were invested in bank deposits and postal service deposits. Today, mutual fund sales by banks represent more than half of all mutual fund sales in Japan. Also, important reforms were made to the mutual fund system. For instance, a company-type fund (which is popular in the United States but was not permitted in Japan) has become available (effective December 1, 1998). Also, private funds (funds marketed to a limited number of institutions) have been permitted (effective December 1, 1998). However, mutual funds have not yet become as popular as one might expect in Japan; since 1998, the percentage of individuals' financial assets invested in mutual funds has been decreasing.

*Asset Management by Securities Firms (Effective December 1, 1998)*

Securities firms are now permitted to offer asset management services, typically by offering a product known in the United States as a “wrap account.”

*Improvement in Accounting (Effective Fiscal Year 1999 and 2000)*

Consolidated accounting and market-value accounting of financial assets were introduced in the fiscal years beginning April 1999 and April 2000, respectively. Since then, further changes in accounting standards and even regulation of accountants have been implemented. The latter (implemented in 2003) was influenced by U.S. reform through the Sarbanes-Oxley Act and is intended to ensure independence of accountants. The new accounting rules are essentially consistent with international accounting standards. A private body for standard setting (known as the Accounting Standards Board of Japan) was established in July 2002.

*Defragmentation among Banking, Securities, and Insurance Industries*

This is an ongoing liberalization program of fragmented industry regulation in Japan. Liberalization measures include permitting mutual entry among the banking, insurance, and securities industries through sub-

subsidiary or holding company structures and reducing firewall regulations among the banking, securities, and insurance industries. Implementation dates vary, but the majority of these liberalization measures were completed on October 1, 1999.

#### *Securitization of Loans, Receivables, and Real Property*

A special statute was passed in the Diet in June 1998 (effective September 1, 1998). This special legislation permits a low-cost method of securitizing financial assets so that financing in the capital markets will become more attractive. Further details are discussed below.

#### **Five Pieces of Legislation in 2000**

In May 2000, five important pieces of legislation were passed in the Diet. Two of these provide insolvency procedures and a safety net for failed banks and insurance companies. Most of this reform was aimed at creating rules relating to the insolvency of banks and insurance companies after April 1, 2002, when the government's promised protection of entire deposits was expected to expire and the "payoff" of banks was expected to happen. The reforms, however, also included various measures to be introduced earlier; in particular the injection of taxpayers' money into failed banks and/or insurance companies during the "emergency" period. The legislation also included provisions that enable mutual-type insurance companies to change their form to for-profit companies. Note that after these reforms were made, for political reasons, the target date of April 1, 2002, was extended to April 1, 2005.

The remaining three pieces of legislation concern further advancement of the Big Bang program with further deregulation of the financial sector. The first piece of legislation amended the Securities and Exchange Act (SEA) and contains two matters. First, the disclosure system changed to permit an electronic filing system, beginning June 1, 2001. Second, stock exchanges could from December 2000 become for-profit organizations if they wished. The Osaka Securities Exchange became a stock company on April 1, 2001 and the Tokyo Stock Exchange became a stock company on November 1, 2001. The second piece of legislation drastically amended the Act on Securitizing Specified Assets by Specified Purpose Companies (the SPC Act) and the Securities Investment Trusts Act. The reform regarding asset securitization will be discussed further below. The third piece of legislation is the Act for Marketing of Financial Products (effective April 1, 2001). This act introduced a new form of consumer protection in the financial sector by imposing private law obligations on "merchants" (including banks and securities companies) that attempt to sell any financial product to customers. The basis of the act is to impose on such merchants a "duty to explain" the risk involved in the financial product being marketed to their customers. If the merchant fails to comply with the duty, it will be

subject to damage liability under conditions that are easier to prove than in the case of general tort liability.

#### *Demutualization of Stock Exchanges*

While permitting demutualization of stock and other exchanges is a global trend, it is interesting that Japan permitted it very quickly. The United States, for example, has not yet permitted this. Generally, there are two ways of accomplishing demutualization: one is to permit an entire exchange to become a joint-stock company, and the other is to separate functions between a self-regulatory organization and a body for operating trading markets and permit the latter to be in stock company form. Upon extensive discussion, Japan took the first approach regarding stock exchanges and the second approach regarding OTC (over-the-counter) markets. More specifically, stock exchanges and futures exchanges are permitted to become stock companies as a whole, while the Japan Securities Dealers' Association (JSDA) cannot become a stock company but rather is permitted to set up a stock company separately to operate OTC markets. The JSDA has taken this path already and today owns a stock company that operates OTC markets (known as JASDAQ markets).

There was heated debate in the process of the regulatory change regarding how the "public" nature of stock exchanges can be consistent with the for-profit nature of the organizational form of a stock company. This public/private interests concern must be considered several years from now when stock company form exchanges have become more established. Advocates for permitting demutualization point out the advantages of the stock company form in financing, expansion of activities, and corporate governance. Again, whether these advantages are real will be determined through future evaluation.

#### *Act for Marketing of Financial Products*

This is quite a unique experience in Japan, because investor protection was traditionally pursued by regulation rather than private law, especially when the regulator prepared a bill for new legislation. The regulator this time prepared a bill having a private law nature; that is, the new law does not give any role to the FSA. Aggrieved investors must go to the courts for damages if they think the brokers they dealt with breached the duty to explain. There was a great amount of court litigation in the past where investors sued brokers based on general principles of tort law. Such litigation took significant time and costs. The new law aims at saving such time and costs by providing concrete requirements and remedies. But here again, the value of the new law must be examined several years from now. The act became effective on April 1, 2001, and a few cases have been brought into the courts under this act.

*Legal and Regulatory Infrastructure for Asset Securitization*

*Legal and regulatory change in 1998.* Unfavorable economic conditions, pervasive after the “bubble” burst in 1991 and the subsequent decrease in the power and competitiveness of the financial and real property sectors in Japan, drew attention to the need to expand the securitization market. Although the resulting legislation was not a magic cure that resolved bad loans and other problems in the financial and real estate markets (as proponents of the expansion of the securitization market sometimes mistakenly believe), it brought about improvements in the general structure of the relevant laws and regulations. There were four legal obstacles for securitization in Japan at the time: impractical methods of perfecting an asset transfer; high corporate law compliance costs; no practical way for a sponsor to cut its ownership interest in an SPV (special purpose vehicle); and the lack of a secondary market among institutions (together with complex general securities regulation). The first two problems were considerably (though not completely) resolved, and the fourth was partially addressed. The third problem, however, was not resolved in 1998.

First, based on a bill prepared by the Ministry of Justice, the Diet passed the Special Assignment Act, which introduced a special rule with regard to perfecting an assignment of loans, receivables, and other claims. The new scheme permits perfection by commercial registration at a registry office, and this method is available for an assignment of any monetary claim by any incorporated entity.

Second, based on a bill prepared by the Ministry of Finance (MOF), the Diet passed the SPC Act. This legislation adopted a sticks-and-carrots strategy. The main purpose of the SPC Act was to reduce the cost of setting up a special purpose company (an SPC under the act). An SPC can be set up with minimum capital of 3 million yen and can issue debt securities (including commercial papers) and preferred stock. These securities were included in the definition of “securities” in the SEA, and dividends for such preferred stock are exempt from double taxation under certain conditions. The governance structure of an SPC is simpler than that of an ordinary joint-stock company; specifically, an SPC only needs to have one director, although an auditor and an accountant are required. An SPC must be registered with the regulator and is subject to its supervision, mainly to ensure that the SPC does not engage in activities other than serving as a vehicle of securitization. There is no merit review, as is the case under the Specified Claims Act (the first statute in Japan for securitization of assets of credit and leasing companies in 1992), but various restrictions are imposed by the SPC Act itself. This scheme is available for the securitization of any type of monetary claims (including loans and receivables) as well as real property.

Finally, the problem of lack of a secondary market among institutions (such as the Rule 144A market in the United States) was resolved in June



1998, when the administrative release that restricted the transfer of privately placed securities was removed. Thus, today, privately placed securities are freely transferable among qualified institutions without registration under the SEA.

However, there are still some problems with the SEA—in particular its narrow definition of “securities,” the practical effect of which is that there are many financial products for which investor protection is offered only through scattered pieces of statutes instead of the SEA.

*Reform in 2000.* Further legislative changes were made in 2000. First, the SPC Act was amended drastically. Second, the Securities Investment Trust and Securities Investment Company Act were also amended.

The SPC Act was extensively revised. First, the act was renamed the Act of Asset Securitization (the Securitization Act). Second, the regulation of SPCs was liberalized. For instance, the minimum capital requirement for an SPC was reduced to 100,000 yen. The registration system was replaced by a notice system, and a scheme using an SPC under the Securitization Act is only subject to a requirement of simple notice to the regulator. Under the original SPC Act, a securitization plan had to be part of the charter of an SPC, but this requirement was removed and the plan can be specified at the time of closing the deal rather than at the time of setting up an SPC. Previously, a change in the securitization plan required the unanimous consent of the stockholders, but now it can be made by a majority vote. Prior to the amendments, preferred stock could not be redeemed, but now it can be; and convertible securities were not permitted, but now they are. An SPC was prohibited from borrowing, but as a result of the amendments it may now do so under certain conditions. Finally, the assets that can be securitized under the SPC Act were limited to monetary claims and real property, but this restriction was removed and any asset may now be securitized under the Securitization Act.

Third, the problem of cutting off the sponsor’s ownership interest in an SPC was solved. In short, a special scheme—a Japanese version of a “charitable trust,” which is a very popular vehicle in the securitization practice outside Japan—was introduced for this purpose.

Fourth, a trust form was recognized as a new vehicle under the Securitization Act. It must be noted that trusts were already popularly used as SPVs for asset securitization not falling under the Securitization Act, and thus there had to be “carrots” offered for the trust-form SPV falling under the Securitization Act. There are two primary benefits in using the trust form under the Securitization Act. One is that the act permits a special purpose trust to issue negotiable instruments representing beneficial interests in the trust. This means that outside the Securitization Act, beneficial interests cannot be represented in negotiable instruments and thus lack transferability among investors (except where there are special statutes permitting such transferability). The second benefit is that the Securitiza-

tion Act permits a majority vote of the beneficiaries to change provisions of the trust contract; outside the act such change requires unanimous approval.

The Securities Investment Trust and Securities Investment Company Act is the major piece of legislation that regulates pooled investment funds that primarily invest in securities, and this act also was substantially amended in 2000. The act now permits such funds to invest in any investment vehicle, so that the name of the act has been changed to the Investment Trust and Investment Company Act. Also, the act recognizes both the trust form and the company form, but in the trust form, the fund previously required that the managing company and the custodian should be separate. The 2000 amendments introduced a new form in which the same trustee may serve as both manager and custodian. For asset securitization, these amendments permit a Japanese version of what are known in the United States as REITs (real estate investment trusts), where the manager has investment discretion over a pool of real property. While REITs may not be commonly considered as securitization, this legal change is mentioned here because they sometimes are.

The remaining legal hurdles for asset securitization in Japan include the validity of a contract clause that prohibits an SPV from filing an insolvency petition. This type of clause is of particular concern to rating agencies but is most likely to be invalid under current Japanese law. Also, except for schemes that fall within the Securitization Act, tax law is not favorable to a corporate-form entity. However, these factors are rather minor, and since the changes came into force (November 30, 2000), the securitization market in Japan has been growing rapidly. For example, in 2001 two public REITs were organized and listed on the Tokyo Stock Exchange.

### **Trends in 2001**

We do not observe reform trends in 2001 as drastic as in 1998 and 2000, but a few developments may be worth mentioning. First, a large-scale reform of securities settlement systems has been underway since 2000, and the first set of legislation was introduced in June 2001. This legislation addressed two matters. One is that a new statute was made to permit dematerialization of commercial papers, a means of short-term financing in Japan. Commercial papers in Japan were introduced in 1987 but legally were characterized as promissory notes rather than debt securities to permit banks to offer intermediary services. Because promissory notes are thought to be unable to be dematerialized, a new statute was introduced. The new statute permits issuance of uncertificated short debts, and these debts are exempted from many strict regulations under corporate law regarding debt securities. It is also important that this new statute permits transfer of (dematerialized) debts by book entry only—a completely new

method in Japanese private law regarding the transfer of debts. The second aspect of the new legislation is that an amendment was made to permit a CSD (centralized securities depository) for shares to become a stock company. A CSD used to be a nonprofit organization but is now a stock company under the new legislation. The remaining part of the reform of securities settlement systems was implemented in 2002 for debt securities (including government bonds) and in 2004 for shares. For instance, a comprehensive legal and regulatory system for indirect holding situations where investors hold various securities through intermediaries in a multi-layer fashion is now available in Japan. Also, regulation of clearing organizations has been provided, and two such organizations have been established. Another issue is that the rule of private international law regarding the indirect holding of investment securities is uncertain. On this point, the Hague Conference on Private International Law introduced a convention in December 2002, and Japan is currently considering ratification of the convention.

Second, simplification of disclosure regulations in various aspects began to be considered in 2001. For example, simplification of disclosure requirements for a mutual fund prospectus was implemented in 2003. The United States made this simplification several years ago, and so Japan is catching up in this area.

### **Impact of the Recent Reforms**

#### *From a Bank-Centered System to a Capital Market-Centered System*

In the past, bank lending dominated the financial sector in Japan. This infrastructure successfully helped Japan achieve high economic growth during the thirty years following World War II. Once the Japanese economy matured, however, the relatively high costs of the services of the bank-centered system began to affect the national economy. Today, other major countries, most notably the United States, have well-developed capital markets, and the globalization of financial markets will inevitably require an increased role for capital markets in Japan. The Big Bang program thus encourages dramatic improvement of the Japanese capital markets. However, I do not think that Japan will become a completely capital market-based country. Banks and capital markets will coexist, so the manner of regulation in this environment of coexistence is the key issue for the coming decades.<sup>2</sup>

#### *From Stability to Adaptability*

Related to the above, during the postwar period the Japanese system emphasized stability—especially employment stability. This policy again made great contributions to Japan's economic growth. Stability, however, is not compatible with adaptability, and thus Japan was poor at adapting to rapidly changing environments in global financial (especially capital)

markets. The U.S. system, in contrast, represents a system emphasizing adaptability. The Big Bang program includes various measures to increase the adaptability of the financial system in Japan. The drawback may be some loss in stability. Here again the key policy issue is whether and how Japan can make stability and adaptability coexist.

#### *Increased Choice for Consumers*

As the Big Bang program includes wide-reaching deregulation of the financial sector, it obviously is intended to give Japanese consumers and investors more choice. However, having more choice in itself is not always a good thing. It also opens up opportunities for fraud and various questionable practices to brokers and other intermediaries. The key policy issue is how ex post remedies can be devised and enforced at low cost. The Act for Marketing Financial Products is an important effort in this sense. As noted below, ex post sanctions for violations of securities regulations were strengthened in 2004. But it is too early today to make any judgment in this area, and one must wait several years to see how increased choice for consumers benefits Japan.

#### *Increased Business Opportunities for Foreign Institutions*

The Big Bang program opened more doors to foreign institutions. Some people have characterized the Big Bang program reforms as a “Wimbledon” style reform. The reason is that although the Wimbledon Championship is located in the UK, most players are from outside the UK. Whether the Big Bang program will attract foreign companies in a similar manner will depend on language, business customs, and other cultural contingencies. In selected markets, foreign financial institutions will probably play a major if not dominant role.

#### *Summary: An Evaluation from a Global Perspective*

The astonishing speed of globalization of financial markets inevitably affects and is affected by Japanese financial markets and Japanese financial institutions. Globalization of financial markets does not mean that there is one single market in the world. It means that many markets coexist in a multilayer fashion, from a local domestic market to an international wholesale market. These multiple markets interact with one another. Also, financial transactions take place across national borders and financial institutions act across national borders in these multilayer markets. Under this environment, a risk arising in one market can easily be transmitted to another market, but from a regulatory standpoint it is difficult to regulate these multilayer financial markets.

The interaction between Japanese and global financial markets is not entirely clear. As noted at the outset, the bursting of the “bubble” in 1991 led to the worst banking crisis in Japan’s history, driving the real economy into recession. However, although this bursting of the stock market and

real estate “bubbles” resulted in unprecedented damage to Japanese institutions and the national economy, it did not spread to other countries’ markets.

Elsewhere, I examined the Japanese response until 1996 and drew the following tentative conclusion: (1) A country that suffers from scandals, market crashes, or unfavorable economic conditions within its borders has a stronger stimulation to move toward “global standards”; (2) the speed of a particular country’s move toward these standards depends on its domestic situation; and (3) it is not the case that everything is moving toward these global standards.<sup>3</sup>

Japan’s Big Bang suggests a drastic move in the Japanese regulatory and institutional settings in the financial sector toward the Western model, particularly the American model, with the increased weight of capital markets in resource allocation. This also suggests a change in the Japanese legal system. Exactly in what direction and to what extent the Japanese legal system will change, however, is a separate and difficult question. How the reform in Japan will affect Asian and other world financial markets is another important issue.

Overall, I submit two hypotheses. First, Japan’s Big Bang program in some respects serves as a force to change the entire legal system in Japan. Second, the increased competition brought into the marketplace as a result of Japan’s Big Bang suggests a shift in regulatory focus toward interdependence among markets and market participants across national borders, rather than domestic markets and financial institutions. This aspect is not discussed in this essay.<sup>4</sup>

## **Political Economy in the Financial Reform in Japan**

In the reform process in Japan, who took the lead, who opposed the process, and how have various interests been accommodated? Answering these questions requires a careful analysis of the Japanese political economy. There have been ample, eminent studies on these matters with respect to financial regulation.<sup>5</sup>

Elsewhere, together with Curtis Milhaupt, I examined the political environment within which legal rules are transplanted and when the transplants are successful.<sup>6</sup> We applied the following general analysis. First, “fit” between the imported rule and the host environment is crucial to the success of a transplant. An analytical conception of “fit” might provide traction on the question of why some transplants are used and others are ignored. “Fit” might be thought of as having two components: micro and macro. Micro-fit is how well the imported rule complements the pre-existing legal infrastructure in the host country. Macro-fit is how well the imported rule complements the preexisting institutions of the political economy in the host country. Central to analysis of both micro-fit and

macro-fit is the availability of substitutes. The fewer the available substitutes for the transplanted rule, either within the legal system (in the form of other laws and legal procedures) or outside the legal system (in the form of norms, informal state interventions, or market constraints), the more likely it is that the transplanted legal rule or institution will be adapted to local conditions and thus used by relevant actors in the host country.

Second, we thought that motivation is also highly relevant to the analysis. Motivation must be analyzed both from the perspective of the law reformers initially responsible for the transplant, and the legal actors (courts, attorneys, and government officials) with the potential to make use of it. From the former perspective, the more predominant the practical utility is in the mix of motives for the transplant, the more likely it is that the transplant will be successful from the outset, if only because motivation is likely to affect law reformers' attention to micro-fit. Other motives, such as politics or symbolism, are far less conducive to success. Yet the initial motivation for the transplant (whether conducive to success or not) can be overcome by those with the authority to apply or enforce the law subsequent to its codification in the local regime. Thus, motivation is an ongoing issue.

While this general theory needs refinement and modifications where one analyzes the reform process within Japan and examines whether a particular reform measure was in fact adopted and whether it was a success or failure, I believe the general framework is useful in evaluating the reform process in Japan.

Most reform measures concerning deregulation in capital market regulation were (officially) initiated and led by government officials. Relevant industries that held vested interests in the prereform regulations opposed the proposed reform measures in various ways. However, it seems that motivation of the government officials was high enough and both micro- and macro-fits were pervasive. It is important that there were industries that attempted new entry into the financial sector and so supported the reform. For micro-fit, all reform measures took the form that was consistent with other existing legal rules and regulations. This brought about interesting results. For example, reform measures with regard to asset securitization took the very complex form of legal rules and regulations in order to be consistent with other existing legal rules and regulations. For macro-fit, unfavorable economic conditions simply supported a drastic regulatory change in the relevant fields. That is, the reform was able to be as drastic as possible to the extent that it survived with the institutional infrastructure in the Japanese financial sector.

In contrast, with regard to rescue measures for banks, some measures were adopted and others were rejected, so that the entire picture of the reform is quite muddy and complex. Just to take one example, in July of 1998 the ruling party (the Liberal Democratic Party) proposed a reform

plan for restructuring bankrupt banks. However, the bill that was prepared by the Cabinet and submitted to the Diet on the basis of this plan was rejected, and new bills prepared by other parties were ultimately adopted in October with modifications that were made in the Diet as a compromise among relevant parties. However, the general theory seems to be applicable here, too. Motivation was quite high with politicians for this reform, and the reform maintained both micro and macro fits.

## **Current and Future Issues in Japan**

In this Section, I describe major reform items in Japanese financial regulation that are currently under discussion. The selection of items is arbitrary, as in Sections II and V.

### **Competition among Securities Trading Systems**

The Big Bang reform in 1998 removed the restrictions concerning off-exchange securities trading. As a result, brokers may now trade listed securities outside stock exchanges. But the postreform rule still required brokers to send customers' buy or sell orders to the markets on stock exchanges unless the customers gave different instructions to their brokers. This means that the reform brought about competition among markets on stock exchanges, not competition among all trading systems, including PTSs and ECNs (electronic communications networks).

The amendments in 2004 removed this order-routing regulation and thereby introduced competition among all trading systems. Brokers now have the duty of "best execution," the meaning of which is not entirely clear (as in other countries) and which remains to be clarified when the new rule is implemented with detailed FSA regulations.

### **Eroding Japanese Glass-Steagall**

Under Article 65 of the SEA (which is modeled on the U.S. Glass-Steagall Act), banks (and insurance companies) are prohibited from engaging in the securities business, with certain exceptions specifically promulgated in law. This provision continued to exist in Japan after the United States abolished Glass-Steagall, but important reform measures have taken place in the past few years. First, as noted above, banks may now sell mutual funds. Indeed, more than half of all mutual fund sales today are by banks. Second, the amendments in 2004 opened the door to banks serving as "introducing brokers." Such brokers stand between securities brokers and customers and for a fee complete contracts between them. Banks have also been permitted to sell certain insurance products as a result of a series of reform measures in the past few years, although opposition from the insurance industry still prevents banks from selling all types of insurance.

**Enforcement**

Strong enforcement of securities regulations is the key to obtaining public confidence and reliance on the Japanese capital markets. The reform in 2004 introduced administrative penalties for violations of securities laws. These penalties are structured as criminal penalties and not civil penalties as in the United States. Also, to help civil enforcement, certain provisions were added to the SEA. For example, issuers are now liable for civil damages for violations of disclosure requirements in the trading markets; the explicit provision on this liability did not exist in the prereform SEA.

**Overhaul of Trust Law and Trust Business Regulation**

Trust business is another important sector in Japan. However, the basic laws in this area have remained essentially unchanged since their original adoption eighty years ago; the Trust Act and Trust Business Act were both introduced in 1922. While this essay cannot provide the entire picture of the trust business in Japan, there have been two important hurdles where reform has been called for. First, the Trust Business Act restricts the types of assets that can be transferred to the trustees at the creation of trust relationships. Second, the Trust Business Act has not been used in practice in Japan for fifty years. Indeed, today all institutions offering trust business in Japan are “trust banks.” These banks are organized and licensed under the Banking Act and obtained authorization from the FSA for engaging in the trust business under the Act for Financial Institutions Offering Trust Business (introduced in 1933). A new bill for an overhaul of the Trust Business Act was submitted to the Diet in March 2004 but was not passed in the last Diet session—not because the content was controversial, but because of the priority of handling bills in the Diet. The bill was expected to be passed in the Diet session in the fall of 2004. This bill removes the restriction on the kinds of assets to be transferred to trustees at the establishment of trust relationships and also permits the entry of “trust companies” (which are not banks) if stipulated conditions are met.

**Comprehensive Investment Services Regulation**

To date, the financial reform in Japan has been undertaken with an important underlying premise. It is that reform will not change the fragmented statutory structure of banking, insurance, and investment services regulations. In other words, the consolidation of banking, insurance, and investment services regulations into one law has never been considered seriously in Japan. However, when the Act for Marketing Financial Products (which is private law and not regulation, as noted above) was considered, some people called for one comprehensive regulatory statute for intermediary services for all parts of the financial sector, as in the UK. The UK introduced its Financial Services Act in 1986 (covering investment business) and changed it into the Financial Services and Markets Act in 2000 (covering banking, insurance, and investment businesses). On the other



hand, there appeared an argument that for capital markets, Japan needs a strong watchdog similar to the U.S. Securities and Exchange Commission, implying that the securities area should be subject to separate regulation from banking and insurance areas.

Meanwhile, yet another phenomenon occurred. Although existing banking and insurance regulations cover their respective areas broadly, securities regulation (promulgated in the SEA and related statutes) does not cover all areas of investment services. Because of recent innovations in financial and capital markets, the range of the area not covered by securities regulation has been increasing. Under these circumstances, some of the new products have caused a social concern. Most notably, margin trading of foreign exchange has become popular and products were actively sold to older individuals, and customers often suffered large losses. There is, however, no single law or regulation that regulates the intermediary business. Thus, the extension of the scope of investment business regulation became a big issue in 2003. The Financial Council released a report in June 23, 2004, to the effect that a new business regulation will be introduced in the area of margin trading of foreign exchange, but at the same time it announced that it will consider the possibility of producing a comprehensive investment services regulation (covering all investment services areas, but not the banking or insurance sectors) and a restructuring of the current SEA and related statutes in the near future. Once such regulation is introduced, the next step may be to consider a financial services regulation covering banking, insurance, and investment services sectors. As noted above, if such regulation is considered, the debate about enforcement may become the key issue.

I should also note that of vital importance is not the form (whether one statute or more than one statute) but the substance (what the actual rules should be). Therefore, the debate about form should not detract from the discussion on the substance.

### **Reform of Publicly Sponsored Financial Institutions**

In Japan, there are many financial institutions that are publicly managed or sponsored, and these institutions have had negative effects on the competition (or provision of a level playing field) among financial institutions, especially after the Big Bang reform. The political power of these institutions is strong, and government officials are reluctant to privatize such institutions. As a result, reform in this area has been delayed. However, current prime minister Junichiro Koizumi has a policy of undertaking reform in this area, and a comprehensive reform plan toward the privatization of the Post Office System (which is run by the government and offers banking and insurance services in addition to postal services) is currently under way.

**Private Law Reform**

Finally, it is important that various private laws have been and are subject to drastic reform. In particular, corporate law has undergone frequent and significant changes in the past several years. The law of secured transactions is expected to change drastically. These changes in private law inevitably affect practices in the financial sector of Japan.

**Summary**

From a global and comparative perspective, issues currently under discussion for future reform in Japan are not novel. I believe that the general discussion of Big Bang reform applies. Even if the reform may take a unique form, the substance of the reform seems to be in conformity with the global trend. Whether a specific proposed reform measure is ultimately adopted in the future seems to depend on the political economy, as briefly examined in the previous section.

**The Japanese Model: Does It Exist?**

One might ask the question of whether there exists a “Japanese model” in financial (and other) reform at various levels. First, with regard to the specific legal rules and regulations, one can find areas where the legal rules and regulations after the reform are unique to Japan and are not found in other countries. Second, one can consider the timing and scope of the reform. When was a particular reform measure introduced and why? In what scope was the particular reform measure adopted? Is Japan unique in these respects?

In the following, I describe two areas where legal rules and regulations that were introduced by recent reform appear to be unique in their (doctrinal) formulations. Note that asset securitization is another area where Japanese laws and regulations seem unique, as described above. The other set of inquiries should be explored along the line of analysis put forth in the section on political economy.

**Deposit Insurance: Protecting Payment and Settlement Deposits**

Japan established its bank deposit insurance scheme in 1971.<sup>7</sup> In general, the insurance scheme is similar to that of other countries and protects deposits up to a ceiling of 10 million yen (roughly \$100,000) per depositor. The system has undergone changes in the context of broad reforms over the past decade to strengthen the Japanese financial system. As an interim measure to promote confidence in the banking system, the deposit insurance cap on various classes of bank accounts was temporarily removed so that insurance would apply to all credit balances without any limit on amount. This measure will be phased out by 2005, but for a special class of accounts of crucial importance to the payment system, deposit insurance will continue to apply to unlimited balances.

The 2002 amendments to the Deposit Insurance Act in Japan introduced this new approach for bank deposit protection, effective as of April 1, 2005. The amendments establish a new class of accounts that will benefit from unlimited protection for funds in a special category called “payment and settlement deposits.”

There are three reasons for the limitation in most countries on the amount of deposits per customer that benefits from deposit insurance protection. First, unlimited protection might put the insurance system itself at risk, because if the amount to be paid out of the insurance fund is too high, the insurance fund may collapse. Second, unlimited protection might trigger serious moral hazard problems for both banks and depositors. Any bank has incentives to continue to take deposits and lend until it fails unless the risk of poor management is not transferred to its depositors. Similarly, depositors have no incentive to choose sound banks if their deposits are fully protected in any event. Third, limited-amount protection is thought sufficient because the purpose of deposit insurance is to protect at least the “last money” of small depositors.

This traditional rationale for deposit insurance, however, does not take into account the important fact that certain deposits are often used as a means of payment through debits and credits to an account. Recall that money serves both as a means of saving and as a means of payment. Not only cash (typically bank notes and coins) but also bank deposits serve these two purposes. In Japan, as well as most developed countries, it is common for both individuals and firms to utilize bank accounts for payment transactions. For example, at the individual level, suppliers of electricity, water, or gas ask their customers for advance authorization to debit the monthly fee from the customer’s ordinary deposit account specified by the customer on a certain date of each month as agreed on in their contract for utility services. Firms put a correspondingly larger amount of money in their accounts used for payment and settlement purposes. If a bank fails before such fund transfers are initiated, and if the customer’s deposits are protected only up to a certain amount under the deposit insurance system, then the payment process might be jeopardized. The resulting impact on the economy is far-reaching since this defined class of bank deposits forms an integral part of the payment system.

Therefore, the new scheme has been introduced with a specific view to protect the stability of the payment system itself. To do so, the scheme has created a special category of bank deposits and offers full protection to such deposits without any ceiling in the case of bank failure. Such “payment and settlement deposits” (*kessai-yo yokin*) are defined to include “traditional demand deposits” (which typically can only be withdrawn by writing checks), but also include deposits that meet the following three conditions: (1) withdrawable at any time, (2) no interest paid by the bank

on such deposits, and (3) freely disposable by the depositor for payment by means of fund transfers.

Of course, if a huge amount of money is put into payment and settlement deposits (which are not necessarily required to be used solely for payment), the insurance coverage could become enormous and might put the deposit insurance system at risk (the risk ultimately to be borne both by taxpayers and by banks that are parties to the insurance fund). However, given the fact that bank deposits are the most popular means of payment throughout Japan, the full protection offered by the new scheme serves to protect the stability of the payment system. The new scheme is based on a policy decision that at least one “safe” means for payment in addition to cash should be provided and that such means should be offered only when depositors use the form of a strictly defined bank deposit.

Until now, deposit insurance has primarily been discussed in the context of protection of an individual’s “last money.” However, for the payment and settlement deposits under the new scheme, it may even be said that the protection of individuals is rather secondary. Furthermore, if the money in the deposit is for use in the payment system, it might even be possible to regard the bank’s function as an entrusted custodian of the deposited funds for beneficiaries within the payment system. Finally, even if taxpayers’ money had to be drawn upon in order to ensure full protection, the result may functionally be similar to an exercise of the lender of last resort function to ensure monetary stability.

In reality, direct insurance payments would be made only in very exceptional situations, because most bank failures will likely continue to be resolved through the so-called purchase and assumption procedure. (In this process, a failed bank is typically divided into a good bank and a bad bank. The “good bank” refers to a group of assets and deposit liabilities that are absorbed by another sound bank that also receives financial assistance from the insurance fund; no direct insurance payment is made to the depositors. The “bad bank” refers to the remaining assets that are liquidated.) This notwithstanding, the idea behind the new deposit insurance scheme can be viewed as a novel and challenging experiment for the protection of a payment system. It could also have an impact on the evolving concept of money, in that categories of assets at a bank such as these, to the extent they effectively have a guarantee, could be considered as safe as cash or central bank deposits.

### **Securities Settlement System: A Different Approach from the United States**

Over the past half century, there has been a change in the way in which shares, bonds, and other investment securities are held, transferred, and

pledged.<sup>8</sup> Two sets of commercial developments are worth particular attention.

The first set of commercial developments is a movement from holding, transferring, and pledging investment securities through the actual possession of security certificates or the recording of registered ownership or other interests on the issuer's books (i.e., direct holding system) to intermediated holding systems where interests in the securities are held, transferred, and pledged through book entries to securities accounts maintained by intermediaries. This movement was pioneered by the establishment of Central Securities Depositories (CSDs), where large pools of security certificates of different issuers are immobilized or otherwise concentrated.

In intermediated holding systems, there will be one or more intermediaries standing between the investor and the issuer. Typically, a CSD will maintain securities accounts for a limited number of financial institutions, broker-dealers, and other professional investors (these intermediaries are often called participants of the CSD). These participants, in turn, maintain securities accounts for their customers, such as institutional or retail investors or further intermediaries, until the point where an intermediary maintains a securities account for an ultimate investor. As a result, there may be a variable number of tiers between the investors at the bottom of the structure and the issuers at the top.

The legal approaches to intermediated holdings vary among legal systems. Under some legal systems (as in the United States), the investor's direct (relevant) intermediary has interests in securities corresponding to the investor's interest and to those of the intermediary's other customers credited to a securities account with another intermediary, and so on up the chain to the highest-tier intermediary (normally a CSD); thus, in such legal systems, there is a separate interest at the level of each intermediary and the highest-tier intermediary is the registered holder of the securities on the issuer's books.

Under other legal systems (as in Japan), however, an intermediary does not hold securities for its customers but acts as a mere record keeper of an investor's interest; thus, while the investor's interest results from a credit to a securities account and is transferable through book entry, the credit of the securities to a securities account maintained by the investor's intermediary establishes a direct relationship between the investor and the issuer (as a consequence, the highest-tier intermediary is not registered on the issuer's book as the holder of the securities).

The second set of commercial developments is the immobilization, dematerialization, and centralization of securities through CSDs. The immobilization of security certificates with CSDs or other intermediaries refers to the holding, transferring, and pledging of interests in securities by book entry to securities accounts without any change in possession of the

underlying security certificates. It may be noted that the use of global or jumbo certificates to represent the entire issue of securities instead of individual security certificates for each security has increased as securities have been immobilized. Dematerialization refers to the complete elimination of certificates to represent securities. Dematerialized securities are represented solely by entries on the issuer's books. Centralization refers to concentrating the bookkeeping of dematerialized securities and the safekeeping of immobilized securities through CSDs.

Although the same commercial developments have taken place to one degree or another in virtually every market in the world, different legal systems classify an account holder's rights resulting from a credit of securities to a securities account in rather different ways. In some systems, the account holder's rights are characterized as a regular deposit, special deposit, coproperty rights in an identifiable pool of securities, or some other form of property right traceable to individual securities. In many such legal systems, even though one or more intermediaries stands between an account holder and the issuer, the intermediary has no legal significance and the account holder's rights are the functional equivalent of those of a direct owner. Thus, the account holder's rights may include the right to enforce the securities directly against the issuer, the account holder may be treated as the direct owner of the securities, or the account holder may be permitted or required to be recorded as the registered owner on the issuer's books.

In other legal systems, the account holder's rights are characterized as an irregular deposit, general deposit, or some other form of a purely personal (contractual) right against the intermediary to the delivery or transfer of a given type and number of securities. In still other systems, the account holder's rights are characterized or denominated as the interest of a beneficiary under a trust, a statutory fiduciary interest, a *Gutschrift* in *Wertpapierrechnung*, coproperty rights in a fungible, notional or book-entry pool of securities, security entitlements, or some other bundle of property, contractual, or other rights. In both of these legal systems, either the intermediary breaks the ownership chain between the account holder and the issuer or the intermediary is treated as the registered, legal, or nominal owner of the securities and the account holders are limited to enforcing the securities indirectly against the issuers through their intermediaries.

Currently, Japan has two different legal systems for indirectly held investment securities. One scheme (established by law in 1984) is a custody system of certificates and applies to shares (the old scheme). The other scheme (established by law in 2001 and amended substantially in 2002, effective on January 6, 2003) is a dematerialization system (securities without certificates) and applies to bonds and other debt securities, including government bonds (the new scheme). The amendments in 2004 includ-

ed shares into the new scheme, but the new system for shares will be effective on the date designated by ordinance for sometime within five years.

Under both systems, the Japan Securities Depository Corporation (JASDEC) serves as a CSD for corporate shares and corporate debt securities, while the central bank, the Bank of Japan (BOJ) serves as a CSD for government bonds. Under the old custody scheme, share certificates are deposited with the JASDEC.

Under the old custody scheme, as in Germany (though not identical in legal details), when intermediaries receive certificates from investors, such investors become account holders for whom securities accounts are created and maintained by the intermediaries and to whose securities accounts the securities are credited. Intermediaries deposit those certificates further up to the top CSD, and the CSD maintains the securities accounts for the intermediaries. Investors then lose their exclusive ownership right to the certificates and instead have coproprietary positions. Their entitlements are fractional property rights relating to all certificates (and thus all securities) of the same type held by the CSD in collective safe-custody.

Each investor has a property interest, and therefore investor's positions are not subject to the claims of the intermediaries' general creditors.

Each investor enjoys a rebuttable presumption that he possesses share certificates in the amount credited to his securities account that is maintained by his intermediary. When the investor transfers his shares to someone else, his account is debited and the transferee's account is credited accordingly. The law provides that when these debit and credit entries are made, the certificates are "deemed to be" delivered to the transferee. Thus, for example, a bona fide transferee will obtain a clean interest even if the transferor does not have a valid interest, as if the transferee obtained a certificate from the transferor without knowing in good faith that the transferor in fact had no right represented by the certificate.

If the total amount of book entry recorded in any securities account does not match that of the certificates held by the CSD, then the CSD and all intermediaries are jointly and severally liable for the recovery of the certificates in shortage. If the shortage is not rectified, then the CSD and all intermediaries are jointly and severally liable for damages to investors.

As for the relationship with the issuer of shares, for the purposes of corporate law, the CSD is only the recorded shareholder of the shares of which they maintain custody of the certificates. However, the law adopts an important system. The issuer must prepare a record of "beneficial shareholders" who are investors having securities accounts with their intermediaries to which interests in the securities are credited under the scheme. The law also provides that those beneficial shareholders enjoy all rights as shareholders vis-à-vis the issuer. Thus, for example, those beneficial shareholders attend shareholders' meetings, receive dividends, and so on.

In the case of an insolvency of an intermediary (or a CSD in an unlikely event), investors have the right to reclaim their property from the insolvency estate. In a case of collective safe-custody, this right relates to the fractional part of the entirety of the certificates of the same kind of securities held by the CSD. The certificates, and therefore the securities, do not belong to the insolvency estate at any time.

In contrast, the new scheme is a complete dematerialization scheme. Under the new scheme, certificates do not exist, and therefore the notion of co-ownership of certificates does not exist. For each issuance of debt securities, the issuer may choose to deploy this scheme or alternatively to remain in a traditional paper-based system. As noted at the outset, this new scheme is expected to apply to corporate shares, and when that happens, shares of publicly held companies will be mandated to be brought into this new scheme on the day designated by ordinance, which will be a date within five years from the publication of the new law. The new law has been publicized on June 9, 2004, and therefore all shares of public companies will be mandatorily dematerialized on a specified date prior to June 9, 2009. In contrast, for debt securities (including government bonds), issuers continue to be given the choice to use the new scheme or remain outside by each issue of securities. However, once the issuer chooses to use the new scheme, it will be prohibited from issuing certificates and thus will not be permitted to move to the paper-based system for the particular debt securities for which the new scheme has been elected.

Under the new dematerialization scheme, each investor is the securities holder; that is, the bondholder, for example, for the amount credited to his account that is maintained by his intermediary. It is important to note that neither the intermediaries nor the CSD has any property right with respect to the securities in question. They are solely responsible for making book entries and maintaining securities accounts. This is in sharp contrast to the old scheme and also differs markedly from systems in other jurisdictions, notably the indirect holding system under the Uniform Commercial Code in the United States.

The amount of securities each investor has is determined in accordance with the book entry in his securities account maintained by his intermediary. Each investor is a securities holder vis-à-vis everyone, including the issuer. For transfer of securities, the investor's account is debited by the amount to be transferred, and the transferee's account is credited accordingly. The transfer becomes legally effective when the latter event happens. This book entry is the only way of transferring securities, and no further requirement is necessary for completing the transfer. Thus, book entry is both a necessary condition and an independently sufficient condition for the transfer of securities under the new dematerialization scheme in Japan. Additionally, for pledges, credit book entry is sufficient for the perfection of the pledge.



A bona fide transferee will be protected. Thus, a bona fide transferee will obtain a clean interest even if the transferor does not have valid securities. If this happens, the total amount of the securities might be inflated, but the issuer of the securities would not be liable for the inflated part; the issuer is to treat all securities holders in pro rata fashion.

If a party (typically an intermediary) makes a mistake in book entry, then such party is liable to the suffering investor. This would happen in two types of situations. First, an intermediary might by mistake make a debit entry to the account of the investor. Second, an intermediary might by mistake make a credit entry to the account of the investor while the corresponding debit entry is not made. In both cases, the intermediary must revoke the book entry made by mistake. However, what if such book entry is made pursuant to an instruction by the account holder who in fact does not have valid securities? Suppose that Investor A had 10 shares and transferred all 10 shares to Investor B. Investor A's securities account was debited by 10. However, what if Investor B sent the instruction to its intermediary X to credit 100 shares to B's securities account, and X credited 100 shares to B's account accordingly? Suppose, further, that B purported to transfer 100 shares to Investor C, and Investor C unwittingly sent the instruction to its intermediary Y, for example, to credit 100 shares to C's securities account. The result would be that Investor C obtains 100 shares as a bona fide purchaser (if he satisfies the conditions set forth in the law). In that situation, though, the total amount of securities has been inflated by 90. In such a case, Intermediary X, who should have known that B had only 10 shares but credited 100 shares and then debited 100 shares, is obliged to cancel the inflated amount of securities. Intermediary X could do so, for example, by purchasing the corresponding amount of securities, 90 in this example, from the market at its own expense and having those securities retired in order to cancel out the inflated number of shares. If the intermediary cannot do so, then the intermediary is liable for damages. Unlike in the old scheme, only Intermediary X would be liable, with the exception that if other intermediaries are below X in the holding hierarchy, those intermediaries would become guarantors (by operation of law) of X's liability vis-à-vis their account holders who suffer the losses.

In each case of the insolvency of an intermediary (or a CSD in an unlikely event), investors have the right to reclaim their property from the insolvency estate. In each such case, the securities do not belong to the insolvency estate at any time.

When comprehensive reform in this area was considered in Japan, a proposal was made to introduce a U.S.-style legal system, but it was ultimately rejected. The reasons are somewhat complex, but two major elements are important determinants for the unique Japanese legal system in this area. First, legal formulations adopted in Japan (as described above) are more consistent—and more compatible—with general principles of

property, commercial, and corporate laws in Japan. Second, from a practical standpoint, it seemed most appropriate to directly give account holders various rights against the issuer—for example, the rights to vote, receive dividends from the issuer, and sue managers by derivative actions. It was felt that under statutory formulations like those in the United States, recognizing these rights would require complicated legal techniques if one were to retain consistency with existing legal tools under a civil law tradition.

### Summary

As the above discussion illustrates, there are areas where Japanese laws and regulations are unique in their formulations. However, I think that differences in formulations among countries are not important; rather the purpose and substance of the reform are important. From this perspective, unique developments in Japan are producing nonunique results, and we see different ways of responding to common problems in modern financial regulation.

### Conclusion

Reform efforts in the regulation of the financial sector in Japan are still ongoing. While the driving forces originate more from domestic circumstances than from outside pressure, the trend of the reforms in recent years in Japan is consistent with the overall global trend: a movement toward more free and transparent financial and capital markets. Within this overall trend, however, the precise response in laws and regulations in Japan takes different forms from those in the United States, for instance, as we see in the fields of asset securitization and securities settlement systems. Thus, substantive regulations around the world in this area do not seem to converge. However, as suggested above, different developments are simply the reflection of path dependence, and they are in fact producing common results. Thus we can say that substantive regulations are converging functionally.

### Notes

1. For a detailed analysis of Japan's Big Bang reform, see, for example, Takeo Hoshi and Hugh Patrick, eds., *Crisis and Change in the Japanese Financial System* (Kluwer Academic Publishers, 2000).
2. See, for example, Franklin Allen and Douglas Gale, "Comparative Financial Systems: A Survey," Wharton School FIC Working Paper #01-15 (2001); Hideki Kanda, "Regulatory Differences in Bank and Capital Market Regulations," a draft available at the web site of Wharton School FIC (2001).

3. Hideki Kanda, "Globalization of Financial Markets and Financial Regulation in Japan," *Zeitschrift fuer Japanisches Recht* 4 (1997), p. 9.
4. For my view on this point, see Hideki Kanda, "Systemic Risk and International Financial Markets," in Franklin R. Edwards and Hugh T. Patrick, eds., *Regulating International Financial Markets: Issues and Policies* (Kluwer Academic Publishers, 1992), p. 267. See also Hideki Kanda, "Global Importance of Financial Sector Reform in Japan," in Goo, Arner, and Zhou, eds., *International Financial Sector Reform: Standard Setting and Infrastructure Development* (Kluwer, 2002), p. 327.
5. See, for example, J. Mark Ramseyer and Frances McCall Rosenbluth, *Japan's Political Marketplace* (Harvard University Press, 1993).
6. Hideki Kanda and Curtis J. Milhaupt, "Re-Examining Legal Transplants: The Director's Fiduciary Duty in Japanese Corporate Law," *American Journal of Comparative Law* 51 (2003), p. 887.
7. This part draws from a contribution by Kazuaki Sono and Hideki Kanda in the report prepared by the Committee on International Monetary Law, International Law Association (2004).
- 8 This part draws from the *Explanatory Report on the Hague Securities Convention* by Roy Goode, Hideki Kanda, and Karl Kreuzer (Hague Conference on Private International Law, 2005) and Hideki Kanda, "Legal Issues Relating to Indirectly Held Investment Securities In Japan," *Japan Annual of International Law* 46 (2003).

# Comments

Sunseop Jung

## Regulatory Challenges: Consolidation and Globalization

A financial regulatory system can properly perform its purposes and functions when it correctly reflects the structure and reality of the financial markets. Traditionally, a financial regulatory system has been established on the basis of strict differentiation of financial sectors including banking, securities, and insurance. However, at least since the late 1970s, financial markets have undergone the revolutionary changes of liberalization, deregulation, and globalization. These structural changes blurred the differences between financial sectors.

These changes, often referred to as the “consolidation of financial markets,” eliminated the feasibility and reality of the financial regulatory paradigm based on the product definition and institutional features. There could be two responses to these challenges. First, some countries, including the UK, Japan, and Korea, established integrated mega-regulators. Second, some countries, including the UK and Australia, integrated all or part of their financial regulatory laws.

In 1998, Korea converted its regulatory system from the old *multiple-regulators system* based on institutional features and product definition to the current *single-regulator system*. This fundamental change could be seen as a primary response to the consolidation in the financial sector. However, as such unification was carried out as a response to financial crisis, there was not so much discussion on its long-term impact on the regulatory paradigm in Korea. There should be more detailed discussion on the impact of the consolidation trend in financial markets on the unification of the regulatory regime.

In addition, in March 2003, the Korean government announced a reform project to consolidate numerous financial services laws into a single statute. This reform project was to cover all financial services areas, including the banking, securities, and insurance sectors. It was said to be a regulatory response to the trend of rapid consolidation in the financial markets. It was also meant to be an effort to initiate fundamental change in the regulatory paradigm from the traditional “interventionist” approach to a more “market-friendly” approach.

## Twin Peaks or Mega-Regulator?

It is clear that the twin peaks model can be a viable alternative to UK-style mega-regulation. However, there could be a potential for conflict in regu-

latory objectives and institutional jurisdictions between the prudential regulator (APRA) and the nonprudential regulator (ASIC).

The author argues that such conflicts, if any, could be resolved through political processes. I would like to know if there are any cases (or debates) of such conflicts and their resolution.

## **A Universal Licensing and Disclosure Regime**

The author notes the “regulatory lacuna for products falling outside the definitions of ‘securities’ and ‘futures contracts’” and the problems of “restricted definitions of ‘securities’ and ‘futures contract’ in Australia’s old companies and financial services legislation.” With regard to the regulation of securities and futures contracts, Australia’s old companies and financial services legislation, the Corporations Law was, in essence, a system similar to U.S.-style multiple regulation based on institutional features and product definitions.

The “regulatory lacuna” and the problems of “restricted definitions of ‘securities’ and ‘futures contract’” were the natural consequences of the institution and product-based regulatory system. Therefore, the only solution to such problems was to introduce a regulation reflecting and encouraging the reality of consolidated financial markets—a functional regulation.

The current regulatory system in Korea is a U.S.-style regulation based on institutional features and product definition. Therefore, there exist the “regulatory lacuna” and the problems of “restricted definitions” of financial product similar to those that existed in Australia prior to the reform made by the Financial Services Reform Act of 2001.

With regard to the definition of “financial product,” the Australian approach is of great interest to us in Korea. The Australian definitional approach is based on the functions of financial products; that is, financial investments, risk management, and noncash payments. This is, as mentioned by the author, “the best evidence of the uniformity introduced by Chapter 7.” But the definition is wide enough to give rise to a concern on the ambiguity of its application. Unlike the UK, Australia consolidated only the regulatory principles in the area of conduct of business regulation. What’s the possibility of the consolidation of regulatory principles in the area of prudential regulation?

## **Globalization**

The limitation of the current regulatory system in addressing the challenges of globalization is the fact that while the financial markets are becoming increasingly globalized, the regulatory systems are still based on domestic law, subject to the jurisdiction of the nation-state.

In this circumstance, the enforceability of regulatory rules is as crucial as the harmonization of regulatory principles. The cross-border regulatory cooperation is of essence for the enforceability of regulatory principles, harmonized or not. For effective regulatory cooperation, consistent legal infrastructure is needed in many areas, including the exchange of regulatory information. Of course, the efforts for national, regional, and international harmonization of regulatory principles should be considered.

## Comments

Inseok Shin

This is a superb analysis of regulatory changes in the Japanese financial system. In the essay, Prof. Kanda provides us with not only a succinct overview of recent regulatory trends in Japan but also authoritative assessments on driving forces behind and implications for the future financial system. Discussions are often made in view of the comparative legal perspective, while particular characteristics of the Japanese system are well taken into the account. Anyone concerned with the topic should find the essay informative and cannot but admire the clarity of the presentation of such a complicating issue. Prof. Kanda argues that the recent regulatory reform has been mainly triggered by domestic events, namely the long-lasting financial crisis of the 1990s; though internally motivated, agendas of the reform are inspired by the global trend of deregulation and securitization; and the government rather than interest groups has been in the driving seat throughout the whole process. In short, he depicts the regulatory reform as a government-driven implant of capital market-related regulations plus some financial safety net measures compelled by the financial crisis. Three questions naturally arise: If the government reform efforts have been genuine, if the implant will fit into the existing system, and if the implant will yield intended effects. His assessments are favorable. Quoting him, “motivation of the government officials was high enough,” “all reform measures took the form that was consistent with other existing legal rules and regulations,” and still “the substance of the reform seems to be in conformity with the global trend.” Thus he conjectures that as a result of the reform, the Japanese financial system should tilt toward a capital market-based one and that future Japanese financial regulations in comparison to the global standard will be different only in form but common in substance. In the end, he observes that “unique developments in Japan are producing nonunique results.”

Convincing as his argument is in many aspects, I have some reservations in giving full endorsement. First of all, I’m not sure if I can agree with him on his claim that recent legal reforms will bring about regulatory convergence, at least in substance, between Japan and other capital-based economies such as the United States. In my view, the critical difference between the Japanese financial regulations—or for that matter financial regulations under the civil law tradition—and those under the common law tradition is “legal formalism.” The Japanese regulation statutorily defines financial instruments and services that financial institutions can deliver, while providing detailed legal definitions of those instruments

and services. Since the legal formalism precludes private financial innovation, new products and services can be introduced to the market only by “government-driven reform.” As a result, Japan pursued such reforms periodically in the past, which I happen to know because the Korean government has often looked to Japan when inspiration for “innovation” is needed. I wonder how different the recent regulatory reform is from previous ones. For example, Prof. Kanda explains asset securitization legislations and demutualization of stock exchange as two representatives of the recent regulatory changes. But the special legislation concerning asset securitization was needed because without legal stipulations on every aspect of the process—such as what constitutes asset-backed securities, what the legal nature of a SPC is, and who can serve as a SPC manager—the new product and service could not exist in the market. The demutualization of stock exchanges also required the new legislation because the former Securities Exchange Act of Japan contained a proviso that a stock exchange should form as a mutual (or, strictly speaking, a membership organization). The reversed order of innovation is clear in comparison to the United States or the UK. In the United States and the UK, asset securitization and demutualization of stock exchanges went on at the initiative of market participants utilizing existing legal concepts, while leaving the court, regulators, and jurisprudence to catch up. In contrast, in Japan legal “codification” was a prerequisite for beginning of the whole process. With this nature of regulatory regime intact, I am skeptical if how much convergence we will see between the Japanese regulatory regime and the United States.

Having said that, I have to admit that I spotted some promising progress in this regard, which Prof. Kanda did not elaborate on. In 1998, as Prof. Kanda mentioned, the Japanese regulator deregulated the fixed brokerage commission rule, which will obviously put increased competition pressure on securities companies. Around the same time, the business scope regulation of securities companies was revised to allow more business freedom. Securities companies can engage only in those businesses listed in the law, the same as before the revision, though the scope has been expanded. But now, when securities companies find a new business opportunity, they can ask regulatory permission that the regulator should grant unless a system risk concern is present. The history of the United States and the UK manifests that a combination of competition and freedom of innovation has brought about the accelerated growth of the capital market since the 1980s. It will be interesting to see if Japan can emulate the experience, which will not only prove Prof. Kanda’s claim but also provide another good example for her neighboring country.



## **Part I-2**

# **Emerging Market Economy**

## **5. Consolidation of Financial Services Laws in Korea: An Interim Report**

Kon Sik Kim and Sunseop Jung

### **Introduction**

The financial regulatory system of a country may properly function only when it corresponds with the structure and realities of her financial markets. Traditionally, financial markets in most countries have been largely divided into three major sectors: banking, securities, and insurance. Regulation has been formed on the basis of this distinction. Since the late 1970s, however, financial markets in industrialized nations have been under mounting pressure from liberalization, deregulation, and globalization. Consequential changes have blurred the existing differences among the financial sectors. These changes, often referred to as the “consolidation of financial markets,” tend to seriously undermine the effectiveness of a regulatory paradigm based on distinctions of products and institutions. The first regulatory response to this market change has been to unify different financial regulators into a single regulator. Several countries, including the UK and Japan, now have a single regulator. In the midst of the financial crisis in 1998, Korea managed to merge existing regulatory agencies into a single regulator, the Financial Supervisory Commission and Financial Supervisory Service. The next step may be to adopt a consolidated financial services law. Only a few countries, however, have dared to move into this stage. The UK is a prime example of such countries.

On March 2003, the Ministry of Finance and Economy of Korea (MOFE) announced its intention to consolidate existing financial services laws into a single statute. The Consolidated Law Project covers all financial services sectors such as banking, securities, and insurance. The reform, said the MOFE, is to respond to the consolidation rapidly in progress of the financial markets. The MOFE claimed at the same time that it is an effort to change its traditional “interventionist” approach to a more “market-friendly” one. The MOFE has invited four research institutes to work on this ambitious project. The Center for Financial Law of Seoul National University, with which we are affiliated, is responsible for preparing a working group draft, serving as legal advisors for the three well-established research institutes: the Korea Development Institute, the Korea Institute of Finance, and the Korea Securities Research Institute.

This essay purports to provide an interim report on Korea’s current efforts for an integrated financial services law from an insiders’ perspective. It will proceed as follows. The first section will start with a survey of

the complex regulatory picture of the financial services industry. It will then address factors leading the government to embark on this ambitious legislation project. Policy considerations affecting the direction and substance of the integrated legislation will also be discussed. The next section will examine the consolidation of financial services law as one of the alternatives to the issues and challenges reviewed in the previous section. The following section will discuss some of the basic concepts such as financial products and financial services that serve as linchpins of the integrated law. The conclusion follows.

## **Background of the Consolidated Law Project**

The Consolidated Law Project was initiated in an effort to revamp the current financial regulatory system based on product and institutional distinctions. Such an institution or product-based regulation was a creature of the days when sectoral differences among banking, securities, and insurance were clear enough to justify different regulatory approaches. Financial markets existing today are markedly different from the model presupposed by the current regulations. The existing financial services laws often prove inadequate to deal with issues arising from consolidation now in progress. We argue that the current laws are deficient primarily in the following three respects: insufficient and inflexible key statutory definitions, regulatory inequality among financial sectors, and unsystematic vertical and horizontal distribution of regulatory measures. True, integrated financial legislation is not necessarily the only option to address these alleged defects. It is believed, however, to be a most ideal solution to these problems.

### **Changes in the Financial Market Environment**

#### *Overview*

Consolidation of financial services may be a primary cause of recent efforts, national and international, on financial regulatory reform. The Korean regulatory system was restructured from a system with multiple sectoral regulators to a system run by a single regulator in 1998, even earlier than developed countries such as the UK and Japan. This regulatory change may be regarded as a response to changing market environments. There was not so much discussion, however, on its long-term implications on the regulatory paradigm in Korea, as the reform was carried out in the midst of the financial crisis. This section will cover some of the most notable changes underway in Korea's financial markets, which form the background of the Consolidated Law Project.

#### *Securitization*

Although the term "securitization" includes various dimensions, it generally refers to "the process of changes in corporate finance from indirect

finance using banks and other intermediaries to direct finance using capital markets.” With the progress of securitization, intermediaries such as banks are stepping backward on the center stage of financial markets. Instead, investors, investment bankers, and other market participants are moving into the limelight. Traditionally, banks serve as intermediaries, providing corporate borrowers with funds collected from depositors. In securitization deals, banks participate in various capacities such as originators, trustees, and financial advisors. Securitization tends to heighten the level of competition in financial markets and to weaken the distinction between banking and securities businesses.

**Table 5.1.** Volume of ABS market in Korea (unit: trillion KRW)

	1999	2000	2001	2002	2003
Total Amount	6.8	49.4	50.9	39.8	<b>39.9</b>
No of Issues	32	154	194	181	<b>191</b>

Source: Financial Supervisory Services.

**Table 5.2.** Originators of ABS in Korea (unit: 100 million KRW, %)

Originators	1999	2000	2001	2002	2003
<b>Banks</b>	<b>7,122</b> <b>(10.5)</b>	<b>60,911</b> <b>(12.3)</b>	<b>120,461</b> <b>(23.6)</b>	<b>17,984</b> <b>(4.5)</b>	<b>62,949</b> <b>(15.8)</b>
Investment Trusts	— ( )	182,923 (37.0)	589 (0.1)	— —	<b>679</b> <b>(0.2)</b>
Securities Firms	2,100 (3.1)	84,095 (17.0)	83,032 (16.3)	20,341 (5.1)	<b>68,952</b> <b>(17.3)</b>
Insurance Companies	3,217 (4.8)	5,618 (1.1)	7,633 (1.5)	5,093 (1.3)	- (-)
Credit Cards and Others	17,784 (26.2)	78,913 (16)	226,625 (44.6)	286,459 (71.9)	<b>195,032</b> <b>(49.9)</b>
<b>Sub-Total</b>	<b>31,540</b> <b>(46.5)</b>	<b>417,426</b> <b>(84.5)</b>	<b>438,530</b> <b>(86.1)</b>	<b>332,671</b> <b>(83.5)</b>	<b>331,737</b> <b>(83.2)</b>
Industrial Companies	2,278 (3.4)	9,278 (1.9)	41,335 (8.1)	63,368 (15.9)	<b>56,650</b> <b>(14.2)</b>
Public Agencies	33,891 (50.1)	67,128 (13.6)	29,477 (5.8)	2,235 (0.6)	<b>10,437</b> <b>(2.6)</b>
<b>Total</b>	<b>67,709</b> <b>(100.0)</b>	<b>493,832</b> <b>(100.0)</b>	<b>509,342</b> <b>(100.0)</b>	<b>398,274</b> <b>(100.0)</b>	<b>398,824</b> <b>(100.0)</b>

Source: Financial Supervisory Services.

In Korea, securitization started with the passage of the Act on the Asset-Backed Securitization (ABS) in 1998. Securitization has been employed as a principal means to dispose of nonperforming loans of financial institutions. And banks have been active players in the asset securitization market (see Tables 5.1 and 5.2).

#### *Changing Needs of the End Users*

The needs of the end users in Korea's financial markets have been changing rapidly as well. This is primarily due to the aging of the population and the growth of disposable income. During the last forty years, life expectancy has dramatically improved in Korea. No longer taking for granted financial support from their children, the elderly are now in need of diverse types of financial products, and financial markets are expected to provide such products at more competitive prices.

#### *Advances in Computer and Telecommunication Technologies*

Advances in computer and telecommunication technologies are transforming the business environment in financial markets. Advanced information technology makes possible new market structures and financial products. At the same time, they may sometimes pose a fundamental question on the meaning (and relevance) of a well-established legal term. A prime example is the growth of alternative trading systems. Regulatory authorities in developed nations are faced with the challenge of dealing with ATSS and the statutory concept of "exchanges."

#### *Blurring of Sectoral Distinctions*

It is well known that financial innovation is blurring the distinctions among different financial products and eventually lowering the walls separating different financial sectors such as banking, securities, and insurance. Blurring of traditional distinctions is thus taking place both at the level of financial products and of financial services providers. The most significant factor facilitating financial innovation may be the widespread use of financial derivatives.

Although a derivative may itself be the subject of transactions, it can be traded as an integral part of other financial products as well. The latter types of products include deposit or insurance products linked to share indices or foreign exchange rates. Such "hybrid" products, on surface, take the form of traditional deposit or insurance products. They perform, however, functions significantly different from those of traditional products. They can be viewed either as hedge instruments to manage the change of share prices or foreign exchange rates or as investment instruments to invest in those risks. Thus they do not neatly fit in with the traditional categories of financial products. Furthermore, depending on how a derivative element is designed, a hybrid product may become functionally similar to a financial product available in a different financial sector. Thus the wide-

spread use of hybrid products has led to an increase in competition among financial institutions.

Derivatives also have impacts on the institutional features of financial services providers. For example, credit derivatives enable banks, securities firms, and insurance companies to have substantially similar balance sheets. In Korea, another element causing the blurring of the market distinctions may be cross-selling of financial products. Cross-selling was introduced as a means to expand the distribution channel for financial products. For example, banks are now permitted to sell some types of insurance products and securities. The blurring of sectoral distinctions is being accelerated with the conglomeration of the financial services providers, which will be discussed in the next subsection.

#### *Conglomeration of the Financial Services Providers*

Traditionally, a financial services provider operated its business as an independent entity. Now it is increasingly run as a member of a financial conglomerates or financial groups. This phenomenon is generally referred to as "conglomeration." Although the term "financial conglomerates" may be defined in various ways, it generally means "a corporate group that is subject to the same control and exclusively or predominantly doing two or more of the banking, insurance, or securities businesses."

The trend of conglomeration is a result of the efforts on the part of financial institutions to take advantage of the economy of scale and the economy of scope. As the customer base of different financial institutions may substantially overlap, running different kinds of financial businesses under one roof can improve the overall level of competitiveness of each financial firm involved.

Financial conglomerates may adopt various forms. They may take the form of a financial holding company under the Financial Holding Company Act of 1999. There are now two financial holding companies: Woori Finance Group and Shihan Financial Group. More prevalent is financial firms, banks in particular, holding financial institutions as subsidiaries. For example, Kookmin Bank has various types of financial institutions as subsidiaries.

The trend toward conglomeration is becoming a subject of heated debate in many countries as it imposes new risk factors on the financial system. Concentration of economic power, conflicts of interest, contagion risk, and corporate governance are generally cited as new risk factors incurred by financial conglomeration. Of more importance for the purpose of this essay, however, may be regulatory arbitrage. For example, banking, securities, and insurance sectors are subject to different capital adequacy requirements. A financial conglomerate operating in these three sectors may want to shift its assets to a firm that is subject to the most lenient capital regulation. Also, the financial conglomerate can avoid the rule on large

exposures by artificially allocating its loans, guarantees, and other credit facilities to other member firms. These problems may not be easily taken care of under a regulatory system based on separate regulatory statutes.

### **Limits of Current Financial Laws**

#### *Features of Current Financial Laws*

Financial regulation in Korea is based on the institution- or product-based approach. For example, the Banking Act of 1950 purports to regulate banks, while the Securities Transaction Act of 1961 and the Insurance Business Act of 1962 cover financial products such as securities and insurance contracts (and financial institutions such as securities and insurance companies). This product-based approach is defective in the following three points: (1) insufficient and inflexible regulatory definitions, (2) regulatory inequality among sectors, and (3) vertical and horizontal dispersion of regulatory rules. These defects will be examined in detail in the following subsections.

#### *Insufficient and Inflexible Regulatory Definitions*

As pointed out earlier, the current regulatory system adopts an institution- and product-based approach. This kind of approach may not be suited to the rapidly changing business environment we now witness in Korea. In defining securities, the Securities Transaction Act (STA) basically employs a strict (and limited) listing approach. The STA enumerates eight categories of financial products as securities and delegates the power to add new products to the Presidential Decree (STA, Art. 2). It is not necessarily easy for the government to exercise its power to add new securities due to, *inter alia*, concerns over the capacity of the regulatory authorities.

The provision on securities has been strictly interpreted. The general view seems that if there is no express permission on a financial product, it may be viewed impermissible. Such a strict listing approach may prove problematic to financial consumers as well as services providers.

First, a listing approach tends to prevent financial services providers from developing new financial products. Under the STA, the definition of securities primarily relies more on the form of products and the legal status of issuers rather than on the economic substance of products. If the definition is strictly construed, it will be relatively easier to tell whether or not a product is covered by the STA. Instances do arise, however, where it is not easy to decide whether a new product falls within the regulatory definition of securities. Suppose a firm plans to develop a new product by combining straight bonds with an element of derivative. Does the STA allow such a hybrid product? What is the legal nature of such a product, a bond or an OTC derivative? Can a securities firm deal in such a hybrid products without special permission from the regulatory authorities? Under the current STA, substantial regulatory uncertainty exists on these

questions, and such uncertainty tends to inhibit financial innovation by discouraging development efforts by market participants.

Second, of more significance from the perspective of financial consumers may be the lack of protection for new financial products. Where a financial product does not fall within the definition of securities under the STA, consumers investing in that product are not entitled to a variety of protections under the STA.

As a solution to these problems, one may argue that a comprehensive category of security such as the investment contract in the U.S. law be introduced in the STA. Such a comprehensive category may cause a different problem. Under the STA, the scope of business of a securities firm is based on the concept of securities. Expansion of the definition of securities will thus result in expansion of the scope of business for securities firms and reduction of business for banks and insurance companies. On another matter, the regulatory authorities may not be equipped with sufficient resources to protect such a wide range of investors.

#### *Regulatory Inequality*

Regulatory inequality among financial sectors is a serious problem under the current regulatory system. Regulatory requirements under the current laws often differ depending on the type of financial institutions involved. No reasonable grounds may exist for such differences. Such regulatory inequality may hamper fair competition among different types of financial firms. For example, with regard to OTC derivatives, banks and securities firms are subject to different regulatory requirements. Banks dealing with equity-linked deposits are not subject to conduct of business regulation under the Banking Act. On the contrary, securities firms selling equity-linked securities must comply with strict conduct of business regulation under the STA. True, regulatory inequality may be inevitable to a certain extent under the current institution-based regulation. The different treatment in the conduct of business regulation mentioned above, however, is hardly justified.<sup>1</sup>

#### *Difficulties Arising from the Unsystematic Organization of Regulation*

Finally, it is hard to underestimate the technical difficulties arising from the unsystematic organization of the current regulatory system. In Korea, financial regulation consists of more than twenty acts covering various aspects of financial services. Moreover, regulatory rules of the same dimension are often provided for on the different levels of law (such as acts, decrees, rules, and regulation). This horizontal and vertical dispersion of regulatory rules not only makes it difficult for market participants to comply with the rules but also hinders the MOFE from reforming the regulatory system in a systematic and consistent manner. As the MOFE itself is organized along the lines of financial sectors, the bureaucrats confess that it takes too much time for them to prepare, say, a simple table compar-



ing entry requirements for different types of financial institutions. Also, as it is unduly cumbersome to revise all the relevant statutes at the same time, the MOFE may have to give up on a desirable change or to accept regulatory inconsistency.

### *Evaluation*

The current regulatory system may be evaluated as follows: First, the current system may not adequately protect the interest of consumers in the financial markets as it covers only the limited range of products. Second, for financial services providers, the current regulatory system fails to provide a level playing field. Third, the current system falls short of satisfying the regulators as well because its unduly complicated structure makes systematic reform difficult.

## **Consolidating Various Financial Laws: Issues and Challenges**

Several alternatives may exist to address the problems mentioned above. First of all, one may suggest that the MOFE attempt to revise the diverse financial laws one by one to achieve a level playing field. This alternative seems the least different from the status quo. As mentioned earlier, changing so many different statutes at the same time is often not feasible. Moreover, financial laws are the ones that need to be revised most often. The second alternative is to aim for a partial integration—for example, unified COB regulation. Examples of this alternative include the UK's Financial Services Act of 1986 (now repealed) and Australia's Financial Services Reform Act of 2001.<sup>2</sup> The third alternative is to consolidate all relevant financial regulations under one roof. The Financial Services and Markets Act (FSMA, 2000) of the UK is a prime example. The second and third alternatives all have merits as well as demerits. The MOFE is now pursuing the more ambitious third alternative, the consolidation of financial services laws.

### **New Form, Same Substance**

While the Consolidated Law Project purports to integrate the existing financial laws into a single comprehensive statute, its basic policy is not to modify the substance except for a few matters requiring prompt change. Given the scale of the proposed reform and the limited time and resources available, we may have no other option than to employ this gradual approach. Such a gradual approach may, however, minimize not only the learning costs of the relevant regulatory authorities but also the compliance costs of the market participants.

Of course, there will be some major changes. Provisions relating to financial products and services will be newly introduced. We plan to move from the traditional institution- or product-oriented approach to a more

functional approach, applying similar rules to a transaction with a similar economic function. Central elements of this functional approach may be the concepts of financial products and financial services, which will be discussed later in more detail.

While the Consolidated Law will not dramatically change the status quo in most respects, its simplified structure will facilitate future adjustment. Also, although the Consolidated Law is certainly modeled after the UK’s Financial Services and Market Act in form, its substance is bound to be determined reflecting Korea’s market and legal environments.

**Scope of Applicability of the Consolidated Financial Law**

The applicability of the Consolidated Financial Services Law is, in principle, dependent on two core concepts: regulated functions and regulated activities. “Regulated functions” involve the extent to which the areas of financial regulation should be covered in the Consolidated Financial Services Law. “Regulated activities” are concerned with the scope of financial activities included in the Consolidated Financial Services Law.

The Consolidated Financial Services Law will cover almost all areas of financial regulation, including licensing, prudential regulation, nonprudential regulation, insolvency, and reconstruction of financial services providers. It will also cover market infrastructure, including exchanges and clearing and settlement facilities. Table 5.3 shows the acts to be incorporated into the Consolidated Financial Services Law.

The scope of regulated activities covered by the Consolidated Act will be determined based on three core concepts: financial products, financial services, and classification of the clients. In principle, the Consolidated Financial Services Law applies to financial services dealing with financial

**Table 5.3.** Acts covered by the Consolidated Financial Services Law

1. Banking Act	12. Mutual Savings Bank Act
2. Long-Term Credit Bank Act	13. Credit Union Act
3. Securities Exchange Act	14. Credit Business Act
4. Futures Trading Act	15. Lending Business Registration and Financial Customer Protection Act
5. Insurance Business Act	16. Financial Holding Company Act
6. Merchant Bank Act	17. Foreign Exchange Transaction Act
7. Trust Business Act	18. Act for Regulating Quasi-Deposit Taking
8. Indirect Investment Asset Management Business Act	- Ship Investment Company Act
9. Corporate Reconstruction Investment Company Act	- Real Estate Investment Trust Company Act
10. Act Concerning Asset Backed Securitization	- Post Deposit & Insurance Act
11. Mortgage Backed Securities Securitization Company Act	

products. Financial products refer to products carrying out specific financial functions, while financial services cover dealing, brokering, underwriting, and other activities involving financial products.

The Consolidated Financial Services Law distinguishes between wholesale and retail clients. By concentrating regulatory resources on retail nonprofessional clients, the Consolidated Financial Services Law tries to promote efficient use of scarce regulatory resources and to lower the overall level of regulation in financial markets. As a whole, this could provide momentum to convert investor protection by “prohibition of risky products” to investor protection by “isolation of nonprofessional clients from risky products.” This feature of the law may work to reduce apprehension about the comprehensive definition of financial products.

### One Law or Four Separate Laws?

With regard to the legislative format, we have two options. The first option is to enact four separate statutes dealing with the four separate aspects of regulation: entry and exit, prudential regulation, conduct of business, and insolvency and reconstruction. The second option is to have a single statute. Although a single statute may prove a little unwieldy, most researchers prefer the second option.

### Delegation and Discretion

If we must set out all the rules in the law, it may become too long and complicated. So we need to put only general principles in the law and have subordinate rules and regulations deal with matters of a more concrete and technical nature. Proper delegation is necessary not only for reducing the size of the law to a reasonable level but also for efficient division of

**Table 5.4.** Composition of the Consolidated Financial Services Law:  
Single statute

Part	Title	Part	Title
Pt 1	General Provisions	Pt 9	Clearing & Settlement
Pt 2	Financial Supervisory Regime	Pt 10	(Financial Services Related Institutions)*
Pt 3	Financial Services Provider	Pt 11	Listing & Disclosure
Pt 4	Approved Person	Pt 12	Financial Data Protection
Pt 5	Prudential Regulation	Pt 13	Exit & Reconstruction
Pt 6	Conduct of Business	Pt 14	Enforcement and Discipline
Pt 7	Market Misconduct	Pt 15	Dispute Resolution
Pt 8	Exchanges	Pt 16	Foreign Financial Services Provider

\*To be included in a separate statute.

rule making. The FSMA of the UK, for example, is heavily dependent upon delegation. Korean lawyers, however, seem to be more strict about delegation. We may therefore have to set out more concrete rules in the law.

The more we rely on discretion on the part of financial regulators, the more crucial it becomes to secure the regulators' accountability. This issue has not been fully discussed in Korea. We intend to set forth expressly the regulatory purpose and general principles of regulation in the law so that they may serve as a test for the regulators.

### **Structure of the Consolidated Financial Services Law**

At this stage, we presume that the Consolidated Financial Services Law may consist of the sixteen parts shown in Table 5.4.

## **Financial Products, Financial Services, and Financial Businesses**

### **Financial Products**

The term "financial products" is a core concept for determining the coverage of the Consolidated Financial Services Law. In defining the term, the following two issues are being considered: (1) a comprehensive definition of financial products and (2) consumer protection by minimizing the regulatory gap.

In principle, the new concept "financial products," however defined, will have to cover all products regulated under the current financial services laws. If a certain instrument meets the requirements of a financial product, it must in principle be regarded as such, regardless of whether the law covering it is under the jurisdiction of the MOFE.

Basically, we may think of two approaches in defining financial products. One is a listing approach, which in essence sets forth a regulatory list of financial products in the law. The other is a describing approach, which describes in general the functions carried out by financial products and defines all arrangements and facilities performing such functions.

Currently the STA essentially adopts a strict or limited listing approach. The STA lists only eight categories of financial products as securities and delegates the power to add new products to the president. The government, however, has so far been very cautious in exercising this power due to misgivings about the capacity of the financial regulator and interministerial turf battles. Financial market participants in Korea seem all in favor of a broader and more flexible approach in defining financial products. If the strict listing approach is adopted again for the definition of financial products, a situation similar to that existing now under the STA may recur. Thus the describing approach seems to be more desirable. It may not be easy, however, to come up with a general definition of financial

functions. We therefore believe that—for now—the UK approach, which lists basic products and defines them comprehensively in the law, is better for us.

### **Financial Services**

The second element that is crucial in determining the applicability of the Consolidated Financial Services Law is the concept of “financial services.” Under the Consolidated Law, “financial services,” rather than financial businesses, will serve as a core concept. In principle, all financial activities regulated under the current laws may be included in the definition of financial services. The term “financial services” may cover two subcategories of services: one is services directly related to financial products and the other is services not directly related to financial products but performing a financial function. The former may include dealing, brokering, underwriting, or other transactions involving newly defined financial products. The latter may include the business of domestic exchange.

### **Banking, Securities, and Insurance Businesses**

As mentioned above, the two basic elements in the law are financial products and financial services. This does not mean that traditional concepts such as banking, securities, and insurance are no longer applicable. For various reasons, we believe that the walls separating the banking, securities, and insurance sectors should remain, at least for the time being. This is one of the main premises of the Consolidated Law Project.

## **Conclusion**

If enacted, the Consolidated Financial Services Law may have the following benefits. First, it is expected that the introduction of a comprehensive definition of financial products could address the problems involving regulatory definition of financial products. It could significantly reduce concern about the tradability of a new financial product on the part of financial institutions and provide adequate protection to those investing in new types of financial production.

Second, the Consolidated Law may eliminate room for regulatory inequality that is based on no reasonable ground.

Third, it is also expected that problems caused by vertical and horizontal dispersion of regulatory rules could be substantially taken care of under the Consolidated Law.

## **Notes**

*Authors' note:* The authors are participating as legal advisors in the working group for unifying financial services legislations. The views stated in

this essay do not necessarily reflect those of the Korean government or the Korea Development Institute.

1. This does not of course mean that the regulation should be the same for all financial sectors.
2. The Securities and Futures Ordinance (2001) of Hong Kong and the Securities and Futures Act (2001) of Singapore may be seen as taking a similar legislative approach.



## 6. Evolution of Korean Financial Regulations

Inseok Shin

### Introduction

The purpose of this essay is to provide a framework for understanding the evolution of financial regulations in Korea. On the evolution of financial regulations in general, existing studies present three views: (1) the “Public Good” view, (2) the “Rent-Seeking Device” view, and (3) the “Institution” view. The “Public Good” view takes financial regulations as an optimal response to market imperfections, for which system risks and agency problems are often mentioned. Goodhart (1988) describes how the central bank system evolved in the nineteenth century in Europe as an optimal coordination mechanism to deal with system risks of financial markets. The Diamond and Dybvig (1983) model of bank run, which posits bank run as a sunspot equilibrium, is often interpreted as a theoretical justification for the public provision of deposit insurance. In fact, the view of regarding financial regulations as a tool for system risk management goes back as far as the nineteenth century, when Bagehot (1873) claimed the necessity of the lender of last resort. Though the history of the literature may not be as old as that of crisis management, also strongly emphasized by economists is the notion that public regulation is necessary in reducing agency problems. Among many others, Deawtripont and Tirole (1997) present an example case as they attempt to justify the existence of general financial regulations and construe their differences among financial institutions by resorting to the agency problems argument—in particular the necessity of representative monitoring. In line with the prevalent literature, crisis management and monitoring of agency problems constitute the normative foundation of currently existing financial regulations in industrialized countries. Indeed, most of the important financial regulations in these countries were born in the aftermath of financial crises, when the public represented by politicians was searching for better system crisis management and agency problem supervision. Hence, in the policy arena, “preserving financial system stability” and “investor protection”—presumably regulatory synonyms for the economic jargons of “system risk management” and “agency problem supervision”—have become routinely expressed goals of ideal financial regulation.

The “Rent-Seeking Device” view, in contrast to the Public Good view, postulates that financial regulations emerge as the outcome of interactions among interest groups. In the context of general economic regulations, Stigler (1971), Peltzman (1976), Posner (1974), and Becker (1983) provide a



theoretical framework for this line of thinking. In the realm of financial regulations, studies in this vein include Calomiris and White (1994), who try to show that interests of small banks rather than social welfare concern motivated the introduction of public deposit insurance system to the United States in 1933. Recently, Rajan and Zingales (2003a) presented an explicit case for an economic factors-determined view of financial regulations. In a daunting attempt to supply a general explanation for different extents of capital market development across countries and time, they argue that by changing incentives and power structures of pressure groups, competition structures of an economy play a pivotal role in shaping financial regulations.

The third line of research, which I call the "Institution" view of financial regulations, is represented by the "Legal Origin" literature initiated by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (henceforth indicated as LLSV). According to LLSV (1998, 2002), whether a country's legal origin is British, French, German, or Scandinavian significantly affects the contents of financial regulations of the country. On why legal origins appear to matter in explaining cross-country variation in financial regulations, LLSV (1999) suggest that legal origins may symbolize the efficiency of the broad "political institution" that governs the interface between the market and the state. Other studies that consider institutional features of a society as central determinants for financial regulation are emerging as well. Spurred by LLSV, Stulz and Williamson (2003) argue that culture and religion may be ultimately responsible for cross-country differences in financial development documented by LLSV, indicating that culture and religion dominate legal origins or political institutions in shaping the regulations and economic efficiency of a society. In addition, not necessarily confined to financial regulations, tracing causes for cross-country variation of corporate governance, Roe (1994, 2003) holds that political ideology prevailing in a society controls a path of *de jure* and/or *de facto* economic regulations. According to his view, important provisos in the New Deal legislations such as separation of commercial banking and investment banking activities resulted from the contemporary ideology that abhorred concentration of economic power.

In comparison to the aforementioned two views on financial regulations, one feature of the Institution view is notable. Though studies in this view do not make clear what the source of institutions is, the presumed premise common in the studies appears that the source must be something independent of economic factors. This aspect of the Institution view can be best understood when placed against the Marxism and the Chicago school's response on the Legal Origin literature. In terms of the Marxian history reading, "economic base" determines all the institutions or "superstructure" in a society (Marx 1974). Also the Chicago tradition that takes all the features of a society as endogenous except the economic incentive

of each agent sees institution as reflection of economic fundamentals. In fact, Rajan and Zingales (2003b) postulate that the English common law system came to better protect private property rights not because of inherent property in the legal system but because it has evolved to serve interests of the newly emerging pressure group in the seventeenth century—the gentry class. This suggests that, unless one maintains that institutions retain a certain degree of autonomy from underlying economic structure, the Institution view will be reduced to a variant of the Rent-Seeking Device view. In this sense, the fundamental difference between the Institution view and the Rent-Seeking Device view resides in that the former upholds the autonomy of the institution over underlying economic factors, whatever the sources of institutions are.<sup>1</sup>

In this essay, I advance a theory on Korea's financial regulation with this key flavor of the Institution view: An "autonomous institution" affects the modality of the evolution of financial regulations. Specifically, I claim that *developmental statism* assumed the role of an autonomous institution and led the evolution process of financial regulations. Developmental statism is composed of three factors: industrialism guided by nationalism, extensive bureaucracy/government intervention in market operation, and external constraints by the international economic order. The first corresponds to the overarching goal of the developmental state and indicates that an ideology critically conditions it. The second symbolizes instruments of the developmental state, which is also influenced by the first. Finally, the third suggests the source of disturbance. In the essay, I specify developmental statism in Korea by identifying its characteristics in relation to financial regulations. I build a simple model embodying the features of developmental statism and, based on the model, state detailed hypotheses on the evolution of Korean financial regulations. Then I illustrate the relevancy of the model by applying it to explanation of the history.

The essay is structured as follows. In the next section, the concept of developmental statism is discussed and the model is constructed. The following section presents a history of Korean financial regulation, recomposed in view of the model. In the final section I add comments on challenges in relation to the future reform of financial regulations.

## Hypothesis

### Basic Idea

#### *Developmental Statism*

The thesis of this essay is that the evolution of Korean financial regulations can be best explained in terms of the Institution view, where the institution in the Korean context has been *developmental statism*. The concept of devel-

opmental statism is an invention of political scientists, coined to identify the political economy of Northeast Asian market economies against those of the Western—in particular Anglo-American—and the socialist countries. Among various arguments made in this line of literature, papers collected in Woo-Cumings (1999) indicate that *developmental state* refers to a kind of capitalist political economy that is characterized by a preponderance of intervention in market decisions systemized through state bureaucracy (bureaucracy/government market control) and that pursues rapid economic growth (industrialism), guided by nationalistic ideology (nationalism) that the state should ensure national survival and, further, prosperity in the face of international economic and political challenges (international constraint). One sometimes encounters a tendency in the literature that the term “developmental state” is associated with a certain normative judgment: namely that governmental intervention in the market has been welfare enhancing during the development stages of the Northeast Asian countries.<sup>2</sup> Other than the controversial normative connotation, which is not necessarily shared even by those who embrace the idea of establishing an independent category for the political economy in the Northeast Asia region, and which I choose to keep a distance from, the concept is founded on realistic observations of existing economic systems from the perspective of a historical-institutional approach.<sup>3</sup>

General characterization of the political economy of Korea using the developmental state provides raw materials for formalizing the hypothesis on the evolution of Korean financial regulations from an economist’s point of view. But before the formalization, considering the purpose of the essay, it is necessary to elaborate on attributes of developmental statism in view of the financial regulatory system in the particular context of Korea. Through this elaboration, we can establish fertile ground that will be useful for later discussion, as well as for the formulation itself.

#### *Characterization of Developmental Statism: Financial Regulatory Perspective*

*Formal traits.* Specifically, three traits characterize the formal structure of Korean developmental statism with respect to financial regulations: state supremacy in the legal system; dominance of the administrative/executive over the regulatory body in the governance system; and strict legal formalism or a positive regulation system.

1. State supremacy in the legal system. State supremacy points to the convention that the administrative body practically assumes the function of legislation, enforcement, and so interpretation of financial regulations. In Korea, government officials in the Ministry of Finance and Economy have drafted all the important financial laws and revisions.<sup>4</sup> The legislative body, the National Assembly, rarely makes its own case and almost automatically enacts the proposed draft. Lower-level regulations such as presidential decrees, ministry orders, and supervisory agency regulations are

also under the control of the same government officials. Thus the government has essentially ruled the whole process of creating financial regulations.

The passivity of the legislative body was shared by the court as well. Korea imported the German legal system, channeled through Japan. Although it goes without saying that the role of the judge and the court is bound to be systematically limited relative to the common law system, the passivity of the court in Korea has been more conspicuous in the area of financial regulations. Any case of court debate on possible constitutional or/and legal violations by financial regulations or financial regulators cannot be found. In the absence of legislative body initiative and court review, the government has enjoyed maximum discretionary power over regulation making, interpretation, and enforcement.<sup>5</sup>

2. Dominance of the executive over the regulatory body. Since academic and policy discussions on the independence of central banks and structure of financial supervisory body have proliferated since the late 1980s, it is now well known that a financial regulatory body can be distinguished in terms of, first, its relationship with the government/executive body and, second, the structure of the supervisory body (e.g., consolidated body or separated). In view of this, the Korean system is notable in that the government has maintained controlling power over the whole regulatory body regardless of its specific form. Some regulatory functions such as rule making have simply been part of the government's job, as aforementioned. In other functions for which separate agencies exist, the government exerts managerial discretion over the entities and governs them. Besides, by appointing former financial bureaucrats as executives of the entities, the administration can maintain a direct and close governance relationship.

3. Strict legal formalism/positive regulation system. "Legal formalism" means that the activities of financial institutions and markets are required to be recognized by the regulator beforehand. Legal formalism in this sense exists in every country to some extent. In fact, one might say that the whole purpose of legislation of statutory acts governing financial activities and, thereby, establishing public supervisors such as the SEC (Securities and Exchange Commission) and the FSA (Financial Supervisory Authority) in the United States and the UK, respectively, is to force certain financial activities to be recognized and thus monitored by the public supervisors. But what distinguishes regulations of these countries from those of Korea, and for that matter presumably from other countries under the developmental statism, lies in the regulatory attitude toward other activities that are not mentioned in statutory regulations. In countries under the common law tradition, economic agents including financial institutions are entitled to engage in all other market activities otherwise stipulated in regulations. On the contrary, under the Korean financial reg-

ulations, financial institutions can conduct only those activities that are specifically recognized by law and thus chartered by or registered to the supervisor. For example, in the United States securities companies are required to register with the SEC in order to act as securities brokers, and they had been prohibited from commercial banking activities by the Glass-Steagall Act until 1999. But in the absence of other regulatory provisos restricting business scope, they are free to pursue other related businesses. In fact, when income flows from the brokerage fee business began dwindling after the May Day reform of 1975, U.S. securities companies ventured into M&A advisory, derivative engineering, and real estate development, businesses that constitute their major sources of income these days. In contrast to the negative system of the United States, the Korean regulation is a positive system: namely, it contains a proviso that generally prohibits securities companies from all economic activities and allows certain businesses by listing them in other provisos.<sup>6</sup>

*Informal Traits.* In addition to the formal characteristics, developmental statism has displayed the following four features in relation to its economic substance, which mostly have been revealed informally through “actions” rather than by formal regulations: intervention in financial intermediation by the government; discouragement of financial activities outside government control; provision of broad implicit government insurance for savers in the regulated financial sector; and discretionary financial crisis management by the government.

1. Intervention in financial intermediation. Literature of the Korean financial development agrees that extensive governmental intervention in financial intermediation has characterized the Korean financial sector until very recently. Until the late 1990s, interest rates were controlled, and cases of direct quantity control over financial flows could be found until the mid-1990s. Moreover, in the earlier years of economic development, through “policy loans,” the government directly controlled a major share of financial flows.

2. Discouragement of financial activities outside government control. Because official interest rates diverged from market equilibrium rates, the curb market or the informal financial sector grew in the 1960s and remained a significant part of Korea’s financial allocation mechanism throughout the period of financial repression, as emphasized by Cole and Park (1979). Since the curb market impaired the effectiveness of the government policy of making cheap financial resources available, the government attitude toward informal financial transactions could not be benign, even to the point that property rights of curb lenders were not fully respected. The episode of “the August 3 Measure” in 1972 is a case of point. Doubly hit by the downward trend of the domestic business cycle and global depression, a large portion of the Korean corporate sector was on the verge of bankruptcy in 1972. Facing this economy-wide difficulty,

the Korean government announced the Presidential Emergency Decree that is known as “the August 3 Measure.” The measure declared that all the corporations were to stop interest and principle payment for the curb loans for the next three years. After the three years, the curb loans were to be converted into five-year loans at the annual interest rate of 16.2 percent, when the market rate was hovering over 40 percent.<sup>7</sup>

3. Provision of broad government insurance. While property rights contained in private financial contracts in the informal sector were threatened, the government provided implicit insurance for savers investing in claims issued by financial institutions of the formal sector. The insurance provision had remained implicit until the economic crisis of 1997, as a public deposit insurance system was introduced effectively only in 1998. Though being implicit, the coverage of the insurance was believed broad enough to cover all the saving instruments offered to the public, which was substantiated by the events during the financial restructuring of 1998 and 1999.<sup>8</sup>

4. Discretionary crisis management by the government. Provision of insurance entailed automatically another function for the government: crisis management. Moreover, the form and contents of the insurance provision determined, and also were determined by the form and the contents of the crisis management. As with the insurance provision, in the absence of regulatory restrictions the government exerted the crisis management function directly and with a high degree of discretion. The “August 3 Measure” in 1972 discussed above is a case in point, and other cases abound in history up to today, including the government response to the “Credit Card Companies Crisis” in 2002.

## **Formalization and Hypothesis**

### *Model*

In order to facilitate and develop the argument clearly, I present a simple economic model inspired by the discourse of the developmental state literature and by my own elaboration on regulatory characteristics of the developmental state realized in Korea. To translate the verbal description into an economic model, an explanatory discussion is in order.

*Capacity of the state/government.* The main virtue of the developmental state literature is to acknowledge a category of economic relationship that is neither free market nor socialist. Woo-Cumings (1999) explains that in the former system, private ownership coincides with private control, while in the latter both ownership and controlling power remain in the state. In the developmental state, private ownership is “conjoined” with state guidance. Using terms of economics, this description of the interface between the government and other agents of a society can be best interpreted by the “incomplete contract” approach. In the incomplete contract approach, basically two kinds of rights exist in relation to property: controlling rights

and cash-flow rights. Controlling rights are rights to manage the property, while cash-flow rights refer to the rights to claim profit streams from the property. Controlling rights belong to residual claim holders, which in a genuine market system coincide with shareholder rights and are equated with ownership. What the developmental state literature says is that in the developmental state, the state exercises controlling rights, and private financial claim holders, including shareholders, have access only to cash flows. What it does not tell us is on what ground the government has come to grasp the rights. On the other hand, the incomplete contract approach tells us that as the state assumes controlling rights, it is bound to become a residual claim holder. A review of the informal characteristics of the Korean developmental statism indicates that the government indeed has become a residual claim holder, albeit implicitly most of the time by providing public insurance.

Focusing on the financial system, a form of system emerges where the government decides the amount of financial resources to be intermediated through the financial sector and the rates to be charged. Private shareholders passively execute decisions of the government and are entitled only to profit flows. In return for the passivity of private shareholders, the government provides insurance. In other words, on the surface or in terms of explicit contracts, private shareholders are “owners” by the definition of shareholders; however, in reality the government takes residual claimants and exerts effective control rights.<sup>9</sup>

*Objective of the government.* With controlling rights, what has been the goal that the government is pursuing? The developmental state literature mentions generally “industrialism” inspired by “nationalism.” My characterization of the Korean system suggests that the objective of the government in controlling financial resources has been to maximize the amount of “excessive” financial resources available for industrial uses—or to insure that the amount of financial resources exceeds the market equilibrium level.

*Constraints on the government.* The developmental state literature hints that “international constraints” comprise the most formidable restriction placed on the developmental state exogenously. In the model below, this property of the developmental state will be interpreted to mean that many exogenous variables of the model are affected by global environmental changes.

In the dimension of domestic politics, I presume that the government of the developmental state is relatively free from constraints.<sup>10</sup> In the practical absence of court review and legislative oversight, the developmental state seems to enjoy a large amount of freedom in manipulating financial flows without being exposed to public monitoring or held to political account. It has been a fact that in developmental states, including Korea, the public is not concerned about the government bailing out financial

institutions in distress or directing financial resources to a particular sector. Therefore, I assume that political cost is incurred by the developmental state only when the government explicitly increases tax collection for insurance provision. In other words, only explicit tax increase triggers the necessity of public monitoring.

Besides political constraints, I assume that the government of the developmental state is subject to two market constraints: one for savers and the other for shareholders of financial institutions. The market constraints exist because agents of the economy can always choose to participate in financial markets outside government control. To induce savers and shareholders to stay in the financial sector under government control, the government is forced to provide some incentives.

Now I present a model of the developmental state in the context of the financial sector composed of the building blocks aforementioned.

$$\begin{aligned}
 & \text{Max}_f B(f) - C(f) \\
 & \text{s.t.} \\
 & R_D(f) + I \geq R_S(f) \quad (C1) \\
 & (1+f)\pi_m(f) \geq \beta\pi_m(0) \quad (C2) \\
 & \text{, where} \\
 & B'(\cdot) \geq 0, B''(\cdot) \leq 0 \\
 & C'(\cdot) \geq 0, C''(\cdot) \geq 0 \\
 & R_S'(\cdot) \geq 0, \pi_m''(\cdot) \leq 0
 \end{aligned}$$

In the model,  $f$  stands for the ratio of excessive supply of financial resources to the market equilibrium amount of financial resources without the government intervention. The first line of the model describes government behavior. By exerting its controlling rights, the government chooses  $f$  to maximize the payoff function  $B(f)$ . In order to mobilize financial resources exceeding the market equilibrium, the government makes use of insurance transfer, the value of which for one unit of  $f$  is denoted by  $I$ . The government provision of insurance is presumed to be based on tax collection, raising of which incurs political costs according to a convex function  $C(f)$ .

In the model, private agents  $\beta$  hold portion of shares of the financial sector, while the government owns the rest of it. In other words,  $\beta$  denotes the “privatization rate.”<sup>11</sup> However, regardless of the shareholding structure, as mentioned already the government possesses controlling rights, and private shareholders have only rights to profit.

Constraints (C1) and (C2) depict the market constraints that the government faces. The first constraint (C1) shows the incentive compatibility condition for savers. At the level of  $f$ , savers expect  $R_D(f)$  to be the interest



rate that the financial sector under government control would offer for saving contracts. On the other hand,  $R_s(f)$  illustrates the interest rate schedule at which the public is willing to save up to the amount of  $f$ . The constraint (C1) simply means that the sum of the value of insurance and  $R_D(f)$  should be no less than  $R_s(f)$  to induce a savings increase.

The second constraint (C2) describes the incentive compatibility condition for private shareholders. Without government control, I assume that the financial sector would earn the profit rate (return on asset rate: ROA)  $\pi_M(0)$  when  $\pi_M(f)$  denotes the profit rate function in the absence of the government control. With government control, the profit rate function becomes  $\pi_C(f)$ . The constraint implies that the total profit at  $f$  determined by the government should be no less than the private shareholders' portion of the total profit without government control. In other words, the government needs to make sure that the financial sector makes profits large enough to ensure that income for private shareholders is equal to what they would make without government control. Otherwise, private shareholders would divest their investment and participate in the curb market.<sup>12</sup>

I begin solving the model by noting that the two constraints should hold as an equality. Therefore, at the solution level of  $f$ , I have from (C2)

$$\pi_C(f) = \frac{\beta}{1+f} \pi_M(0) \quad (E1)$$

Letting  $r(s, f)$  represent the interest rate borrowers pay at the level of  $f$  and the state  $s$ , which realizes with the probability  $p(s)$ , the expected gross revenue rate for the financial sector is given as

$$\int_s r(s, f) p(s) ds$$

I assume that in intermediating financial resources, the financial sector uses labor as the only input that is available at the constant wage rate. Further assuming that the financial sector faces a constant return to scale technology, I can rewrite  $R_D(f)$  in terms of the gross revenue rate and the profit rate.

$$R_D(f) = \int_s r(s, f) p(s) ds - \pi_C(f) - c$$

The rewritten definition means simply that the financial sector is expected to pay the public the expected gross revenue rate after subtracting the profit rate and the average cost rate  $c$ . Inserting (E1) into this definition and noting that (C1) should hold as an equality, I obtain an equation relating  $I$  to  $f$ .

$$I(f) = \frac{\beta}{1+f} \pi_m(0) + R_s(f) + c - \int_s r(s, f) p(s) ds \quad (E2)$$

Also notice that the latter three terms of the equation constitute the definition of the profit function without government control, namely  $\pi_m(f)$ . Using this, after some rearrangement, I can get another expression for (E2) that is easier to interpret.

$$(1+f)I(f) = [\pi_m(0) - (1+f)\pi_m(f)] - (1-\beta)\pi_m(0) \quad (E3)$$

The term inside the brackets implies profit losses due to government-controlled excessive financial intermediation. The other term on the right-hand side corresponds to the government's share of profit if it followed the market rule. Together, the equation indicates that the effective unit insurance cost for the government is equal to the total profit loss minus the government's share of the profit under the market rule. This means that the government raises taxes and faces political costs to compensate only for the private shareholders' losses.

Finally, inserting (E2) into  $C(f)$  yields a new expression for the government cost function in terms of only  $f$ , which I define as  $TC(f) \equiv C(f)$ . Then, the maximization condition for the government is obtained as the first-order condition. Sufficiency of the condition can be easily verified and so omitted.

$$B(f) = TC(f) \quad (E4)$$

Implementation of the solution may be conceived as follows. The government selects the level of financial savings  $f_c$  according to (E4). To induce the best execution or cooperation of the private shareholders, the government promises the same payment that they would enjoy without the government control. At the same time, the government leads the financial sector to offer a fixed-rate deposit contract to the public that guarantees the interest rate of  $R_s(f_c)$ . As a result of the scheme, the government ends up with taking the burden of insurance transfer effectively valued by (E2).

*Hypothesis*

Evidently, there can be two kinds of dynamics with the model: changes of the model in the nature of fundamental system alteration and changes within the model in the nature of comparative statics. The former occurs when the objective of the government changes, while the latter comes about as a result of variation in parameter values or addition (loosening) of a new (existing) constraint. Based on my interpretation of the developmental state literature, I suppose that the government objective transforms ultimately when the main political discourse of a society or the prevailing

ideology is substituted by a new one. And for parameter value changes or constraint shifts, I suppose that exogenous changes in the international environment should be a primary source. In other words, the system model works only when it is consistent with the given international context. If allowed by the international environment, the developmental state will adjust parameter values to its advantage as it chooses its capacity.

Now I can state the hypothesis of the essay on the evolution of Korean financial regulations. The basic hypothesis is that system alteration has not been a feature of the evolution process of Korean financial regulations.

*Basic hypothesis.* For the past forty years since 1960, the developmental statism represented by the model has prevailed continuously in Korea and so dictated the evolution process of its financial regulations. As a result, the evolution process of the Korean financial regulations has been shaped by changes in the nature of comparative statics of the model. To be more specific, I elaborate on the basic hypothesis with the following punch lines:

- Evolution of the 1960s and the early 1970s: In the early 1960s, with the advent of the Park Chung Hee regime, the system of the developmental state was embedded in Korea. As the model was set up, because the international environment remained benign, the Korean government was able to manipulate parameter values at will. In consequence, strong dependency of the Bank of Korea on the government, inflationary financing, and nationalization of commercial banks resulted, and financial regulations evolved to meet these developments.
- Evolution of the late 1970s and the 1980s: Industrialism inspired by nationalism of the Korean developmental state yielded the heavy and chemical industry (HCI) drive. Given the exogenous innovation to the model, the government embarked on capital market development to maximize its objective function. The outcome was the unique phenomenon of capital market growth based on governmental insurance provision. Major changes in financial regulations of the two decades were motivated to execute government policy.
- Evolution of the 1990s and after the economic crisis of 1997: International environment changes, in particular financial liberalization and opening, had increasingly larger effects on the system. Financial liberalization created a channel of “insurance leakage,” which increased political costs of insurance provision and culminated in the crisis of 1997. The crisis accelerated financial liberalization, which led the state to abandon the developmental state model. However, what model will replace the old one is not clear.

## Fitting to History

### Birth of the System in the 1960s

#### *Implications of the Model*

For purposes of discussion in this section, it is necessary to consider what factors affect insurance costs in the model. For this, I rewrite (E2) below.

$$I(f) = \frac{\beta}{1+f} \pi_M(0) + R_s(f) + c - \int_0^1 \sigma(s, f) p(s) ds \quad (\text{E2})$$

The equation shows that among other things, insurance costs increase in the privatization rate,  $\beta$ , and the savers' reservation interest rate,  $R_s(f)$ . Hence, if the government has the latitude of choosing a value for  $\beta$ , the optimal choice would be zero. Besides, if the government believes that  $R_s(f)$  can be lowered by policy, it would be beneficial for the government to pursue the policy as well.

Observation 1: If the government can set the environment of the model with respect to  $\beta$  and  $R_s(f)$ , "nationalization of financial institutions" and an "inflationary policy" that keeps actual inflation rates above savers' expected inflations rates will be chosen.

#### *History*

In 1961, General Park Chung Hee came to power in a bloodless coup. Seizing power, Park declared that "economic modernization" and "anti-communism" would be national agendas. As such, the ideology of "industrialism" was born. Korea regained its independence from Japan in 1945 and established the first government in 1948 with Rhee Syngman as the first president. The corrupt Rhee administration was overturned by the April 19 Civil Revolt in 1960. The newly formed government, which Chang Myeong led, was short lived, soon to be substituted by Park's regime. It took awhile for Korea to find an ideology with which it could identify.

Once the overarching goal of industrialism set in, however, it was only a short step to identifying "government control" as the mechanism for implementing the goal. Until Korea was forcefully annexed by Japan in 1910, the tradition of central government control had always been a crucial feature of Korean medieval history. Japan, the prototype of the developmental state, on one hand destroyed agrarian aspects of the old regime, but on the other hand strengthened state power with modern apparatuses. Indeed, according to Kohil (1999), the institutional foundation of the developmental state took root in Korea as early as the colonial period, when Japan diffused her legal and bureaucratic system to Korea, which Japan had originally imported from late-nineteenth-century Prussia.<sup>13</sup> In addition, having imported the civil law tradition channeled through Imperial Japan, the trait of "legal formalism" became an essential property of the modern legal system of Korea.

Based on the inherited institutional tradition, Park, who himself was trained in a Japanese military academy and served in the Japanese army, naturally envisaged the strategy of state-led economic growth and embarked on empowerment of the government. The structure of the central government was redesigned and, notably, the Economic Planning Board (EPB) was established as the control tower of economic planning and coordination in July 1961.<sup>14</sup> The EPB prepared five-year economic plans, the implementation of which was effectively directed by Park Chung Hee himself. If necessary, laws, decrees, and other regulations were promptly drafted and passed immediately. Not only because Park's regime was authoritarian, but also because the national goal of "economic modernization" itself was taken heartily by the whole nation, disputes from the legislature or the courts were out of the question. Thus, the trait of "state supremacy in the legal system" came into existence.

Along with the reformulation of the government, subjugation of the financial sector to the state was advanced. The original Bank of Korea (BOK) Act was drafted by two economists from the Federal Reserve Bank of New York in 1950. Apparently, the original legislation postulated that the bank should be given a high degree of autonomy. The bank's nine-member Monetary Board was the supreme policy-making organ with final responsibility for the formulation, the execution of monetary policy, and supervision of the activities of banking institutions. In 1962 Park's government amended the BOK Act to strengthen the government's control over monetary policy. Under the new act, the minister of the Ministry of Finance (MOF) appointed other members of the board including the BOK governor and retained the power to overrule board decisions.<sup>15</sup> As a result, the characteristic of "dominance of the administrative over the regulatory body" made an appearance.

In addition to bringing the BOK under government control, the Park administration took steps to nationalize commercial banks. After the April 19 Civil Revolt, prominent businessmen were accused of having grown rich through political connection with the Rhee regime. Taking over the task of dealing with these "illicit wealth accumulators," the Park Chung Hee government accused them of tax evasion and other illegal business practices and confiscated their equity shares in commercial banks. By this drastic measure, commercial banks were effectively nationalized.<sup>16</sup> Since the state owned the banks, two informal characteristics of the developmental state (insurance provision and crisis management by the government) came along naturally.

In this way, in the early years of the Park Chung Hee regime, formal and informal characteristics of developmental statism discussed previously were settled. The model was set up and began dictating the course of Korea's financial policy. In particular, the government took measures consistent with the two implications of the model aforementioned. National-

ization of banks was already discussed. The government came to depend on inflationary financing as well. In 1962 the Korean government began aggressively mobilizing financial resources to pursue industrialization. Accordingly, commercial banks were ordered to provide loans for designated uses, a significant portion of which was financed by monetary expansion. Under the state-led growth strategy, the Korean economy started to register accelerating macroeconomic growth. The average annual growth rate of the GNP rose from about 4 percent in 1953–61 to about 8 percent in 1962–66 and to nearly 10 percent in 1967–79. Along with the rapid economic growth, however, chronic inflation became an integral part of the Korean economy. In 1964, when the Korean economy got on the fast growth track, the inflation rate rose steeply to 35 percent. Although it declined to below 10 percent in 1965, during the nine years before the oil crisis of 1973–74 annual inflation rates averaged around 10 percent.

**The Decades of Capital Market Development: Late 1970s and 1980s**

*Implications of the Model*

Consider that there are two kinds of saving in the economy: liquidity saving and long-term saving. The former saving demands high liquidity, while the latter does not. Specifically, I assume that financial institutions face redemption demands from  $\alpha$  portion of liquidity saving providers on average. I further assume that to meet the demand, the financial institutions taking liquidity saving reserve  $\alpha$  portion of the total saving. Obviously, these types of financial institutions are the banks. The other type of financial institutions, nonbank financial institutions (NBFI), do not need to set aside reserves. Now that there are two types of savings, the original model needs to be transformed.

$$\begin{aligned}
 & \text{Max}_{f_B, f_{NB}} B[(1-\alpha)f_B + f_{NB}] - C(f_B I_B + f_{NB} I_{NB}) \\
 & \text{s.t.} \\
 & R_B^L(f_B) + I_B \geq R_G^L(f_B) \\
 & R_{NB}^{LB}(f_{NB}) + I_{NB} \geq R_G^{LB}(f_{NB}) \\
 & (1 + f_B) \pi_G^L(f_B) \geq \beta \pi_M(0) \\
 & (1 + f_{NB}) \pi_G^{LB}(f_{NB}) \geq \beta \pi_M(0)
 \end{aligned}$$

In the rewritten model, subscripts *B* and *NB* denote the financial institutions dealing in liquidity saving (i.e., banks) and those in long-term savings (i.e., NBFI) respectively. The payoff function for the government is changed in accordance with the reserve portion of liquidity savings that cannot be lent for industrial uses. The first two constraints are merely a rewriting of the incentive compatibility condition for savers (C1) in the original model, but now for the two sectors. The last two constraints are

the same kind of modification of (C2), that private shareholders should be compensated for their reservation profit rate. Notice that I embedded an assumption that the reservation profit rate is equivalent between banks and nonbank financial institutions as  $\pi_M(0)$ . The underlying justification for the assumption is that in a market equilibrium without government control, profit rates should converge across two sectors.

From the structure of the payoff function, the government would prefer intermediation through the NBFI since it can maximize the use of saved resources, if costs for insurance provision are not different between for the bank and for the NBFI. So, the crucial question is whether insurance costs do not change across the sectors. Now note that from (E2) and (E3), at the solution insurance value functions will take the following forms.

$$I_b(f) = \frac{\beta}{1+f} \pi_M(0) - \pi_M^b(f)$$

$$I_{NB}(f) = \frac{\beta}{1+f} \pi_M(0) - \pi_M^{NB}(f)$$

The equations indicate that shapes of the insurance value functions should depend on those of the profit rate functions before government compensation. It is known in the literature that banks differ from NBFIs not only in liquidity management but also in capacity for monitoring borrowers. Therefore, banks take borrowers that need intense monitoring, while NBFIs deal only with those that need relatively dispensed monitoring. Relying on this argument, I assume that  $\pi_M^{NB}(f)$  decreases faster than  $\pi_M^b(f)$  for positive  $f$ . This assumption provides a countervailing force so that as the solution the government is likely to choose some  $f$  consisting of both positive  $f_b$  and  $f_{NB}$ . With the preparation, another implication of the model can be summarized as follows.

Observation 2: Constrained by the set of borrowers that do not need intense monitoring, the government will prefer mobilizing resources through NBFIs or capital markets, other things being equal. Hence, measures to foster capital markets are likely to be taken, the effect of which will depend on the size of the set of such borrowers.

### History

Park Chung Hee declared in 1972 that “steel = national power,” a pithy slogan foreshadowing the new industrial policy, and in 1973 the Park government officially announced the launch of the heavy and chemical industry (HCI) drive.<sup>17</sup> As a result, in the late 1970s development of a new integrated steel mill, a shipbuilding industry, an auto industry, and heavy chemical industries were promoted. It is notable that the HCI drive was motivated not so much by economic calculations as by nationalistic

responses to political incidents of the time—a trait of a developmental state. According to Cummings (1987), American planners and economists resisted the development; therefore, nationalists were dominant in constructing the plan by creating the Economic Planning Board, which was transnationally penetrated by Western economists with theories opposed to industrial deepening. In line with this, Lim (2000) explains that Park Chung Hee upheld the HCI drive with such a compelling urgency because he was concerned by the pullout of a division of U.S. troops from Korea in 1971 in the wake of the Vietnam War and set an agenda for national self-defense.

In promoting the HCI (except the steel mill, which was constructed through a public enterprise), the Korean government chose, as Lim puts it, a “government-business risk partnership” as the implementation mechanism. Private entrepreneurs were selected to execute the task of building an industry, while the government would provide necessary financial support. Owing to their close relationship with the government, the private firms managed by the entrepreneurs were believed “too important to fail” or considered to share business risks with the government. Due to the nature of the HCI, these firms grew large rapidly. In addition, taking advantage of their prestigious position in the economy, the entrepreneurs were able to extend the number of firms under their management quickly. As a result, in the late 1970s a group of *chaebol*—Korean conglomerates—came into existence.

The first issuance of corporate bonds in Korea occurred in 1963, when Ssangyong Cement issued convertible bonds.<sup>18</sup> However, presumably due to the lack of high creditworthy companies, a tangible increase in corporate bond market activity did not follow until the late 1970s.<sup>19</sup> Now, from the perspective of financial markets, the advent of *chaebol* meant that a set of borrowers that did not need intense monitoring of banking style was formed. As the conditions and necessity for capital market development were in place, subsequently the government began taking measures aimed at fostering capital markets. This government policy had an immediate impact and, since the late 1970s, growth of the corporate bond market has accelerated, constituting a major part of corporate financing in recent decades.

In the rapid expansion of the corporate bond market, among various regulatory measures, fostering of collective investment schemes in securities by the government played an important role. The basic legal framework for collective investment schemes was already prepared in 1969 when the government passed the Investment Trust Act.<sup>20</sup> Based on this act, the first investment trust company (ITC) was set up under the auspices of the government in 1974. Two additional investment trust companies were established in 1977 and 1982, and three other ITCs were prominent institutional investors in the corporate bond and equity market in the following



decades. After the setup of the ITC industry, the government further widened the scope of collective investment schemes by allowing banks to engage in the trust business. The charter of trust business was first granted to regional commercial banks in 1983 and was extended to national commercial banks in 1984.<sup>21</sup> Trust departments of banks offered essentially the same type of collective investment products to savers and, thus, formed another group of institutional investors.

In view of the purpose of this paper, two features of the regulations of the ITC and the trust business need to be highlighted. First, the government exerted managerial control over the ITCs, not to mention the trust departments of banks, and savers in were provided implicit insurance. Though all the ITCs were privately owned by banks, regardless of the ownership structure the government appointed board members of the ITCs and directly controlled their management. As the government assumed *de facto* managerial authority, naturally the ITCs enjoyed governmental insurance for failure. In addition, the assets of ITCs and bank trusts were not marked to market. Thus, when investors demanded redemption, the ITCs and bank trusts paid cash on the spot according to book value, then they transferred securities from funds to their own accounts rather than selling in the market. In this way, investors were shielded from market risk and potential losses were accumulated in ITCs' and banks' own accounts. In fact, fixed payment was promised to investors explicitly until 1990, and even afterward the practice of guaranteeing certain payment implicitly continued until the crisis of 1997. This feature suggests that the growth of the corporate bond market in Korea was peculiar in that it was supported by government control and provision of implicit insurance.

Second, because the growth of the ITC industry and the trust business of banks were orchestrated by the government, the configuration of business scope regulations took a unique form. When distinguishing the type of business scope regulations between compartmental banking and universal banking, the Korean regulations of the 1980s should be classified as the former, since banks could not perform brokering or dealing in securities. This was because Korea imported the legal framework for the banking and securities businesses from Japan at a time when Japan was under the U.S. compartmental regulations imposed by the MacArthur regime following World War II. But the Korean regulatory treatment of banks' entering asset management business was quite different from the United States, the origin of the compartmental regulations. In the United States, whether commercial banks could engage in the asset management business had been an issue on the front line between commercial banking and investment banking. Until the late 1970s, asset management was regarded as a part of the securities business, which the Glass-Steagall Act prohibited commercial banks from practicing. As demands for asset management

began increasing after the 1960s, banks repeatedly attempted to enter the business through their trust departments. The attempts often led to legal disputes initiated by the investment banking industry, and the court interpreted the Glass-Steagall Act in favor of the investment banking side. Since the early 1980s, the trend has changed as bank regulators kept an accommodating stance toward banks' extending investment banking activities. The struggle between commercial and investment banking was finally ended by the legislation of the Gramm-Leach-Bliley Act in 1999, which allowed banks to fully engage in the asset management business.<sup>22</sup>

In Korea, by comparison, banks engaging in asset management did not give rise to any serious regulatory concern. From the beginning the government chartered trust business to commercial banks for the purpose of extending the base of collective investment schemes. In fact, since government control supported by governmental insurance provision was underlying both asset management and commercial banking, the government probably did not feel the necessity of separating one from the other. This episode suggests that as the government controls the entire financial sector, the compartmental type of business scope regulations can take a twisted path in a developmental state; I will return to this point later.

### **Growing Global Constraints and Insurance Leakage: The 1990s**

#### *Implications of the Model*

As the model describes the behavior of the controlling government, financial liberalization or lessening of government control rights should come from outside of the model. Further, Observation 1 suggests that in a case where liberalization—including privatization—is enforced by an external shock, the government is likely to resist to the force. That is, under the developmental state, financial liberalization will be launched by a global force, and the liberalization process will be a gradual one, often tainted by abortive measures.

However, even partial liberalization may bring about a significant impact on the maximization problem of the government because it raises the possibility of "insurance leakage." Financial liberalization opens up new business opportunities for financial institutions of which the government may not always be aware. To be specific, suppose that as a result of liberalizing financial institutions, they can intermediate a new type of financial resources, without being subject to government control. Since it is out of government control, it does not enter the government payoff function. But, for the same reason that the government has no information on the activity, moral hazard may arise now. Specifically, I assume that the state does not have institutional technology to prevent moral hazard for the activities out of its control. In other words, the state can avoid moral hazard of financial institutions only when it has complete control rights.

If the moral hazard problem is severe, then the expected profit rate function can be lower than before. Then, as long as it is the financial institutions that receive government-provided insurance,  $f_0$  enters the insurance cost function of the government. If the government takes the change into account in solving the model, it is prepared to assume the cost, though emergence of  $f_0$  may reduce the solution level of  $f$ . However, if the government is not aware of new business opportunities and its implication on insurance costs, it ends up solving an incorrect model without accounting for the presence of  $f_0$ . As a result of underestimating the political costs of insurance provision, the government may choose too high a level of  $f$  and as a result face unexpectedly high political costs in association with the insurance provision. I call this situation “insurance leakage.”

Observation 3: Externally driven financial liberalization may bring about “insurance leakage” that can escalate into a political challenge of developmental statism.

### *History*

Financial liberalization in Korea began in the 1980s, directed by the global trend. As externally imposed, the process was gradual. I will discuss interest rate liberalization, capital account opening, and introduction of the Bank for International Settlements (BIS) capital regulations to illustrate this point.

Until the late 1980s there was no systematic policy to deregulate interest rates, although piecemeal approaches, which were abortive, could be found.<sup>23</sup> In December 1988, the government declared that most of the lending rates of banks and nonbank financial institutions were to be liberalized. However, the government effectively resumed interest regulations in 1989, when the interest rate became unstable as a result of high inflation. In August of 1991, the government announced a detailed plan for interest liberalization called the Four-Stage Interest Rate Deregulation Plan. With this plan, the government implemented deregulation of interest rates over the following six years. The first stage in November 1991 set free short-term capital market interest rates that were already close to the market rates. In the second round of the liberalization in November 1993, all lending interest rates including bond rates and the deposit interest rate for more than two years of maturity were deregulated. The third and fourth rounds of the liberalization were enforced in July 1994 and July 1997, respectively, and interest rates for the remaining financial products were deregulated. Therefore, deregulation of major interest rates came about only in the late 1990s. In addition, despite de jure deregulation, the government continued intervening in market operations when it was deemed necessary to stabilize market conditions.<sup>24</sup> As a result, until the crisis of 1997, it is believed that interest rates were still de facto under government control.

The same gradual approach prevailed with respect to capital account liberalization. In January 1992, the Korean stock market was opened to foreign investment, but a number of restrictions were imposed, including a 10 percent aggregate ceiling on the foreign ownership of listed firms. This ceiling continued to exist until the crisis of 1997, although it was relaxed to 12 percent in December 1994 and further to 15 percent in July 1995. For capital flows involving debt instruments, quantity restrictions were more severe. Commercial loans by domestic firms, which had been prohibited since 1986, were allowed in 1995 but with restrictions on the uses of funds. In addition, government approval was required. Likewise, the overseas issuance by domestic firms of foreign currency-denominated bonds was deregulated in 1991, yet the government managed the total inflows through discretionary quantity control. The government exerted the same discretionary control over long-term capital inflows channeled through banks.

Therefore, Kim and Shin (2002), in their review of Korea's financial liberalization, conclude as follows: "Until the late 1980s the financial market in Korea was heavily regulated. And when efforts for financial liberalization were made beginning in the 1990s, the pace of liberalization remained cautiously slow until the crisis of 1997. In the dimensions of domestic financial liberalization, government intervention persisted despite liberalization. As to financial market opening, the Korean government maintained a lukewarm stance."

While maintaining a gradual approach toward liberalization, the Korean government responded in a similar way to the externally advanced BIS regulation: nominal introduction, de facto ineffective. The BIS capital adequacy requirement was introduced for all commercial banks in 1992. And as far as official data is concerned, banks had no difficulty in satisfying the requirement. The BIS ratios of nationwide commercial banks on average ranged around 9 percent afterward. Even at the end of 1997, immediately after the crisis, that figure remained at 8.67 percent. However, it turned out that the reported BIS ratios did not accurately reflect the true state of banks' financial health for various reasons. Korea's standards with respect to risk management fell short of global standards. Inadequate loan loss provisions, partial recognition of stock revaluation losses, and loose loan classification standards and accounting rules led to a discrepancy between official numbers and the actual state (Shin and Hahm 1998).

Partial as it was, however, financial liberalization created a channel of insurance leakage. As part of the liberalization measures, banks were allowed to open and expand operations of overseas branches. Banks exploited this opportunity of increasing foreign currency-denominated business as aggressively as through domestic branches, leading to large foreign currency liabilities of their overseas branches comparable to the external debts of domestic branches.<sup>25</sup> In fact, when the crisis broke out in

November of 1997, it came as a foreign creditors' run on overseas branches of Korean banks. Dooley and Shin (2000) argue that the Korean government was blind to the risks accumulating through overseas branches simply because the traditional modus operandi of financial policy was not designed to monitor it. They claim that the insurance leakage indeed provided a necessary condition for the breakup of the crisis of 1997.

Eruption of the crisis of 1997 surprised the Korean public as well as many spectators of the Korean economy, given that the economy had registered such a miraculous growth for the preceding decades. The surprise quickly turned into a full-blown attack on the government. The developmental state was confronted by a serious political challenge.

### **Crisis and Dismantling of the Developmental State: After 1997**

#### *Implications of the Model*

If effective financial liberalization continues, the model indicates that the developmental state is bound to transform. Effective financial liberalization limits a feasible set of  $f$ , for the state can choose. Besides, it tends to increase  $f_0$ . Two forces work together to keep decreasing the optimal level of  $f$  for the government. In the end, the state will face a situation under which  $B(f) - I(f, f_0)$  is always negative for feasible values of  $f$ . Now the government can be better off by abandoning the developmental state model.

Observation 4: If financial liberalization continues, in the end it is optimal for the government to abandon the developmental state model.

#### *History*

The economic crisis of 1997 began as a currency and a banking crisis in November 1997. It quickly developed into an economic crisis that resulted in the worst macroeconomic depression in Korean history in 1998. In the wake of the crisis, facing the shortage of foreign liquidity threatening the survival of the economy, the Korean government could not help but resort to the rescue that entailed direct policy intervention by the IMF. In collaboration with the IMF, the Kim Dae Joong administration, launched on February 1998 in the aftermath of the economic crisis, undertook sweeping financial liberalization that critically reduced the capacity of the government in controlling financial institutions and markets. First of all, capital markets—including stock markets, bond markets, and short-term money markets—were fully opened to foreign investment.<sup>26</sup> With the opening, the de jure interest rate liberalization in the 1990s became effective, as informal government interventions were ruled out. In addition to capital market opening, important steps were taken in the spring of 1998 to allow foreign penetration into Korean financial institutions. The opening of subsidiaries of foreign banks and securities firms was liberalized in March. The ceiling on foreign ownership of banks was lifted in April, and regulatory prohibition of foreign nationals' becoming bank directors was removed in May.

As a result, of seven major commercial banks, six are now either fully or partially owned by foreign investors. In addition, application of the BIS regulation was strengthened in line with the global standard, which, together with the increase in foreign participation in financial institution ownership and management, hardened market discipline that banks faced and restricted the room remaining for government control.

As financial liberalization made dramatic progress, accelerating the transfer to private control rights, measures to reformulate the insurance provision scheme were taken. The Depositor Protection Act, which was originally legislated in 1996 only to become ineffective because of the absence of credible financing schemes, was revised in 1998. With the revision, the “implicit” deposit insurance scheme of the past was substituted by an “explicit” one, where the Korea Deposit Insurance Corporation (KDIC) managed the scheme. As far as savers are concerned, the new act has not made much difference. Since saving instruments in essentially all nonbanking financial institutions as well as banks are eligible for insurance coverage, its effective role is concerned less with reducing insurance coverage than with explicit recognition of existing implicit insurance. But the new act has been effective in limiting insurance coverage for private shareholders of financial institutions. In cases where a financial institution is supported by the KDIC, existing shareholders of the financial institution are forced to lose all their investment and incumbent managers are dismissed. The change implied a dismantling of the developmental state model, because provision of insurance to shareholders and managers was crucial for exercising government control. Significant in restricting insurance provision to savers was the introduction of the mark-to-market accounting rule for funds managed by investment trust companies and trust departments of banks in 1998. As a result of the accounting reform, investors in funds have become exposed directly to credit and market risks of funds and lost implicit loss protection.

### **Conclusion: Challenges Ahead**

As a way of wrapping up the paper, instead of repeating what has been argued, I will speculate on challenges in the future. The Korean developmental state is dismantling. However, dismantling is one thing; creating a new one is another. One may conjecture that once a developmental state model is renounced, transformation to a “liberal regulatory state,” the political economy of Anglo-American countries, is on the way.<sup>27</sup> Since the ultimate source of dismantling of the developmental state was changes in the international economic order, which have been in turn directed by the hegemony of the United States, it may be only natural to predict that domestic financial order will converge with the world order. But one can also contend that precisely because the recent dismantling of the develop-

mental state was mainly spurred by external forces, such a drastic transformation is unrealistic. The nationalism that gave a birth to industrialism—the overarching goal and the cornerstone of the developmental state—is arguably still the prevailing political discourse. In addition, the legacy of civil law tradition alone would make the transition extremely difficult. Given the conditions, it may be reasonable to expect rationalization of the developmental state rather than transition to a liberal regulatory state.

This means that the formal traits of the developmental state are likely to evolve rather than become extinct. This is so because the dominance of the executive may have more to do with ideology and the legal system than legal contracts. Central banks tend to be more independent in a federal system, where ideological opposition toward central political power exists.<sup>28</sup> And supervisory agencies seem to more successfully avoid being directed by political concerns when they compete with public prosecutors and private lawyers.<sup>29</sup> For the same reason, changing the supremacy of the state and legal formalism is no less formidable. Since the two traits overlap with essential characteristics of the civil law tradition, any attempt at reform would make sense only if a consistent framework for the whole legal system is conceived. Indeed, reforming the formal traits of the developmental state calls for fundamental political reform and legal reform that goes well beyond the realm of financial regulatory reform, but that will define the shape of the rationalized developmental state and will condition the basic direction of evolution of financial regulations.

Focusing on financial regulatory reform, issues to be resolved pose their own challenges to be reckoned with. What is agreed upon among the public appears to be only the inevitability of financial liberalization and globalization. Thus government control over the financial sector is renounced in general, but appropriate reconfiguration for the traits of extensive insurance provision and crisis management is yet to be addressed. One issue easy to identify is how to set the scope of insurance provisions. Under the current act, as mentioned earlier, most of the non-bank financial institutions, including even securities companies, are covered by public deposit insurance on the grounds that some of their products are classified as saving instruments. The extensive insurance coverage leaves the possibility of insurance leakage largely intact by distorting the monitoring incentives of investors, not to mention the inconsistency with the theoretical rationale of public deposit insurance.

In relation to insurance leakage, another issue present is how to streamline the business scope regulations. Before the crisis of 1997, as a part of its liberalization policy, the Korean government permitted commercial banks to engage in investment banking business through subsidiaries. Since the government was controlling the financial sector as a whole, as the asset management of bank trust departments did not make this an

issue, the measure was implemented without invoking any concern. As a result, the current regulations have already lost the compartmental philosophy, while their implications on system risks and insurance leakage were not fully appreciated.

The central issue in reforming the trait of discretionary crisis management will be how much discretion should be left. The principle for managing financial institutions covered by public insurance is rather straightforward: the U.S. style too-big-to-fail regime will prevail.<sup>30</sup> In other words, distress of those large financial institutions that pose system risks will be dealt with in a way guaranteeing the continuity of the business entity. A thorny issue arises: whether to acknowledge the function of an “honest broker” vis-à-vis the regulator in relation to noninsured financial institutions, an example of which can be found in the Federal Reserve Bank’s role in the Long Term Credit Management Crisis. Should this remain the discretionary power of the regulator? What would this imply for the organizational structure of the lender of last resort, the supervisor, and the government? The importance of these questions has been increasing as financial liberalization, on the one hand, keeps creating new forms of intermediation and, on the other hand, provides a way of mingling risks between the new form of institutions and insured institutions.

## Notes

1. And in this sense, the ‘Institution’ view squares with the Institution school of economic history initiated by D. North. For example, North and Thomas (1973) forcefully argue for the importance of institutions in economic development and notes that K. Marx and A. Smith both subscribed to this. Then he criticizes K. Marx and A. Smith on the ground that the former failed to recognize that institution does not automatically follow economic growth, and the latter did not tell how to ensure an efficient set of institutions that assures sustained economic growth.
2. Literature credits the origin of the term “developmental state” to Chalmers Johnson and his 1982 account of the Japanese political economy, MITI, and the Japanese Miracle. The favorable normative evaluation toward it also begins with him. In the case of Korea, it would be Amsden (1989) who has gone the farthest by asserting that government distortion of the price mechanism led to high growth.
3. Even among the authors participating in the book edited by Woo-Cumings cited in the paper, Cumings (1999), Kohli (1999), and Loriaux (1999) remain cautious and do not draw any final normative evaluation for the developmental state. By the expression “I choose to keep a distance,” I simply mean that I do not discuss normative aspects of the



developmental state—in particular in the context of Korea—in this paper.

4. Formerly it was the Ministry of Finance that was in charge of making financial law and policy. In 1994, the Ministry of Finance and the Ministry of Economic Planning were merged into the Ministry of Finance and Economy.
5. It is notable that the state supremacy in the legal system is common to Japan, the country claimed as the prototype of the developmental state by scholars. Johnson (1995:13) observes that in Japan “the bureaucracy drafts virtually all laws, ordinances, orders, regulations, and licenses that govern society. It also has extensive extra-legal powers of ‘administrative guidance’ and is comparatively unrestrained in any way, both in theory and in practice, by the judicial system.”
6. It is worthwhile to mention that Japanese financial regulations are also based on the positive regulation system. For example, securities companies can engage in certain businesses recognized by the regulator. I am indebted to Professor Jong-Ho Kwon of Keon Kuk University for this knowledge.
7. This account of the August 3 measure is due to Lim (2000).
8. Full legal protection was given to all the saving products of banks and nonbank financial institutions. Even claims held by the public on collective investment schemes such as the investment trust were protected when the Daewoo crisis resulted in substantial losses (Shin and Park 2000).
9. For a general discussion of the incomplete contract approach, see Hart (1995). The idea of separating control rights from shareholder rights and bestowing control rights on the government regardless of a formal shareholding structure can be found in Shleifer (1994). As a result, my model turns out to be similar to theirs both in spirit and in some of its implications.
10. In fact, the developmental state literature does not say much about the impact of political democratization on the developmental state.
11. Because shareholders exist, the total asset of the financial sector,  $(1+f)$ , consists of the public’s financial savings and shareholders’ capital. But the model implicitly assumes that  $f$  can be changed only by additional financial savings. For this reason, I use the term “financial savings” also for the total asset of the financial sector.
12. Private shareholders may be seen as shareholder-managers. In the model, I assume that there is no information asymmetry among the state and private shareholders. Therefore, moral hazard that may arise due to the profit guarantee is not an issue in the model.
13. As Kohil (1999) acknowledges, it is Cummings (1987) who has most forcefully argued the importance of the Japanese colonial regime for

- the full understanding of the post–World War II political economy of Korea and Taiwan.
14. Lim (2000) argues that the idea of establishing the EPB was originally conceived by the Chang Myeon administration.
  15. This account of the BOK Act amendment draws on Ro (1994) and Park (1982).
  16. The description of the nationalization of commercial banks is quoted from Lim (2000). Lim, in his discussion of the origin of the Korean economic system, correctly points out that, in view of the system building, reformulation of the government, subjugation of the BOK, and nationalization of commercial banks were the most notable institutional innovations taken by the military government.
  17. Cumings (1987) and Lim (2000).
  18. Shin and Park (2000).
  19. In the year of 1972, facing a severe downturn of the economy and turmoil in financial markets, the government introduced guaranteed corporate bonds to ease the financial constraints on companies. Specifically, the government authorized the Korean Investment Corporation (a de facto government agency) to be a guarantor and extended the new business to banks. The regulatory change marked a turning point in the early years of the Korean corporate bond market development, since relatively faster growth in new issuance followed and the outstanding balance of corporate bonds increased. But the share of corporate bond in firm financing remained minor until the late 1970s (Shin and Park 2000).
  20. The Investment Trust Act was modeled after the Japanese act with the same title and provided a legal base for the UK unit trust-type of collective investment scheme (Shin 2002).
  21. The legal framework of the trust business was built by the passage of the Trust Business Act in 1961. After the enactment, no banks except one specialized bank (the Korea Trust Bank) were permitted to engage in the trust business until 1983 (Shin 2002).
  22. For the history of legal conflicts between the commercial and the investment banking industries, see Caldarelli (1995), Willis (1995), and chapter 15 in Jackson and Symons (1999).
  23. For example, in 1981 the government introduced commercial paper (CP) without any restrictions on issuance rates. But shortly after, the CP rates became subject to regulation, as the government deemed the market rate excessive.
  24. Dooley and Shin (2000) provide one example of direct government intervention in the stock market in 1995. In the year the Korean stock market became stagnant, in order to stabilize the stock market, the government introduced an informal measure of rationing new stock issues of major companies.

25. As of the end of 1996, foreign currency liabilities of Korean banks stood at U.S. \$50.7 billion for domestic branches and 52.9 for overseas branches.
26. Ceilings on foreign stock investment were completely lifted in May 1998. Corporate and government bond markets were completely opened even earlier, at the end of 1997. Opening of the money market, such as the markets for commercial paper and certificates of deposit, proceeded in steps and was completed in May 1998.
27. By “liberal regulatory state,” I refer to the political economy of the United States that came into existence after the New Deal reform. For the regime before the 1930s, “liberal laissez-faire state” would be proper.
28. Consider the cases of the U.S. Federal Reserve Board and of the German Bundesbank.
29. Consider the recent competition between New York State prosecutors and the Securities and Exchange Commission in chasing Wall Street in the aftermath of the Internet bubble.
30. “Too-big-to-fail” had always existed as the implicit operational principle of the Federal Deposit Insurance Corporation (FDIC). It was made official and its procedure was made transparent by the FDIC Improvement Act of 1991.

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# Comments

Hideki Kanda

## Introduction

Korea's attempt to introduce new consolidated legislation for its entire financial sector is timely, challenging, and impressive. I particularly believe this because the current Korean regulatory landscape is quite similar to that in Japan in many respects, and Japan may also be considering such legislation. Professors Konsik Kim and Sunseop Jung describe the current effort toward introducing such legislation, point out the problems with the current regulatory structure in Korea, and provide a clear road map for reform. While I agree with many points in their discussion, in this brief comment I will attempt to make a few argumentative points. In the following section I point out that what is important is not the form but the substance and that the cost of enforcement of such legislation should be paid more attention. From this perspective, the key question is what will and should change in substance. In the next section, I submit that in designing one consolidated financial regulation, it must be accompanied by a flexible regulatory structure. In the final section, I address the question of when drastic reform or transplantation of legislation from other countries happens and is successful.

## Substance versus Form

Having consolidated legislation for financial services seems like an attractive idea, and indeed such a system exists in the UK. What is important is not the form but the substance, and thus when one envisages the move to consolidated legislation, the key question is what will change in substance. To answer this question, one must have a vision or policy about the future state of the financial sector. The authors envisage the development of financial conglomerates in Korea and are well aware of the question of form versus substance. Indeed, the authors note that having the proposed consolidated statute will not change substance much, with an exception concerning the statutory definition and coverage of financial services and financial products. To me, however, a functional approach seems helpful and desirable in considering what substantive changes should occur. For instance, the cost of enforcing laws and regulations is an important element between the bank-centered system and the capital markets-centered system. I think it is vital to determine what Korea's policy is for choosing between these two systems. It may be to recognize the coexistence of the two systems.

If some form of regulation in the financial sector is justified, no regulatory system functions well unless accompanied by proper regulation and enforcement. What is proper is thus the primary concern for policy makers. The starting premise should be to acknowledge the simple fact that the cost of regulation and the cost of enforcement will not be zero. In other words, the value of regulation must be determined by both its benefits and its costs. The key issue for any jurisdiction is how to design and maintain an effective regulation and enforcement system through considering these benefits and costs.

Imagine a world with only one simple rule: “Do not do bad things.” This rule may be appealing; what it says is quite right and covers all possible situations. However, when a problem arises, who decides what are “bad things” and based on what specific criteria? Applying this abstract rule (appropriately) to each specific situation or problem would be an extremely difficult task. Thus, in this world, the cost of enforcing the rule would be prohibitively high, so the rule would not work in practice.

The reason why every jurisdiction has complex rules is simple: The enforcement of rules is costly. In other words, to reduce the cost of enforcement, there must be specific rules. The problem is that if one attempts to write too many specific rules, writing such rules is costly as well, because it is not easy to write specific rules to cover all possible situations or problems that may arise. In short, the optimal level of specificity in writing rules is difficult to determine, even from the enforcement perspective alone. In reality, a variety of factors other than enforcement affect rule making in any jurisdiction, so rule making is more complex and contingent on many things. While one can list major factors that should be considered in rule making in the financial sector, specific regulatory rules inevitably vary from jurisdiction to jurisdiction. Each jurisdiction should adopt specific regulatory rules that fit the jurisdiction best by carefully examining the enforcement environment and other factors in that jurisdiction.

## **The Structure of Consolidated Legislation**

When we envisage consolidated legislation for the entire financial sector, I think it must accompany a flexible structure. The authors seem to be well aware of this point and address, for example, the difficult question of designing the layers of rule making—namely, from the Diet-made “law” level to subsidiary regulations and even self-regulatory rules and guidelines. In designing layers of rule making, again, I think the cost of enforcement is a key factor.

Flexibility is required in substance as well, which the authors also seem to be well aware of. For example, where all investments are covered by one regulation in the investment business, it seems that line-drawing

between wholesale and retail transactions must differ. For highly tradable securities, such as listed shares, as noted above, we face a policy question of whether a public market and a private market (a market within institutional investors) are permitted to coexist and if so under what conditions. For securities that are not as tradable, such as typical investment contracts, this concern does not arise, and therefore an exemption from the disclosure requirement for institutions can be more widely recognized than for tradable securities.

Similarly, when considering the scope of activities of financial investment service providers, if the investment at issue is not highly tradable in the market, providers can be permitted to widely engage in other businesses. For example, a regulatory concern may not be created if auto manufacturers are permitted to sell certain investment contracts as far as they are subject to proper disclosure and antifraud rules. On the other hand, if they actively engage in transactions involving tradable shares and financial derivatives, it may be appropriate to subject them to capital adequacy regulation, so that their investment service activities may be required to be undertaken through a separate corporate body from the entity engaging in the auto manufacturing business.

### **Success of a Drastic Change**

As I wrote in my principal paper for this conference, Curtis Milhaupt and I examined the political environment within which legal rules are transplanted and when these transplants are successful. We applied the following general analysis. First, “fit” between the imported rule and the host environment is crucial to the success of a transplant. “Fit” might be thought of as having two components: micro and macro. Micro-fit is how well the imported rule complements the preexisting legal infrastructure in the host country. Macro-fit is how well the imported rule complements the preexisting institutions of the political economy in the host country. Central to the analysis of both micro-fit and macro-fit is the availability of substitutes. The fewer the available substitutes for the transplanted rule, either within the legal system (in the form of other laws and legal procedures) or outside the legal system (in the form of norms, informal state interventions, or market constraints), the more likely it is that the transplanted legal rule or institution will be adapted to local conditions and thus used by relevant actors in the host country. Second, we thought that motivation is also highly relevant to the analysis. Motivation must be analyzed both from the perspective of the law reformers initially responsible for the transplant and the legal actors (courts, attorneys, and government officials) with the potential to make use of it.

With this in mind, we see that there are many puzzles in legal and regulatory change around the world. For example, why should Korea or



Japan not just copy the UK Financial Services and Markets Act? Also, if the definition of securities under the relevant regulation is too narrow, why not simply extend the definition and make it comprehensive?

There are many reasons why these things do not happen, although as a general matter the exact mechanism for legal change is not entirely clear. First, political reasons may prevent the expansion of the definition of securities. It is interesting if one proposes to adopt one comprehensive piece of legislation and this idea faces less or weak opposition in Korea. When a proposal is made to drastically change or overhaul the entire regulatory system, it may be that such a proposal includes too many matters for vested interests to focus on. Also, the motivation of advocates may be stronger with respect to a drastic proposal than for a proposal for a minor change.

On the other hand, the reason why a jurisdiction does not, for example, simply copy the UK Financial Services and Markets Act may be less political. Blindly copying such legislation may not fit other parts of laws and regulations in the host country very well, both at the macro and micro levels. One might then ask the question: Why not copy the entire legal system? The legal system, even as a whole, is still part of a larger system, and a change that could be less drastic will have macro- and micro-fit with other (nonlegal) parts of the system.

## **Conclusion**

Both domestic and global financial markets change and develop rapidly. Laws and regulations inevitably lag behind. The proposal for new consolidated legislation for Korea's entire financial sector is timely, challenging, and impressive. While I think the substance of such a proposal must be examined carefully, and a flexible structure is necessary with such a comprehensive regulatory regime, it will be very interesting to see the future development of such a proposal in Korea.

# Comments

Berna Collier

Mr. Shin examines the developmental state model as a framework for understanding the evolution of Korea's financial regulations. He concludes by stating: "The Korean developmental state is dismantling. However, dismantling is one thing; creating a new one is another." Mr. Shin's conclusion intersects with an important aim of this conference—namely to consider the reconstruction of Korea's regulatory framework to cope with global financial trends such as financial consolidation. The developmental state model presented by Mr. Shin revealed a number of similarities and differences between Australia and Korea that may be used to discuss the reconstruction of Korea's regulatory framework. They are set out below, bearing in mind that—as Mr. Shin observes—legal, political, cultural, and religious factors will influence a country's financial regulations and regulatory structures.

External forces (e.g., globalization and liberalization), which Mr. Shin describes as the ultimate source of dismantling the developmental state, have also been a catalyst for regulatory reform in Australia. There are both similarities and contrasts when considering characteristics of the developmental state model in their application to Korea and Australia:

- *State supremacy in the Korean legal system.* In Australia the separation of powers makes executive and legislative decisions, judicially reviewable. For example, Australia's current corporations legislation, the Corporations Act 2001, is the result of private challenges to the constitutional validity of the government's power to exercise jurisdiction over corporations and financial services. The Australian Securities and Investment Commission's (ASIC) decisions are also reviewable by the Australian Administrative Appeals Tribunal.
- *Dominance of the executive over the Korean regulator.* In Australia, the corporate and financial services regulator, ASIC, is independent of the executive. ASIC has the power to develop policy, recommend law reform, and engage in public consultation through policy proposal papers.

Positive regulation in Korea (i.e., strict legal formalism) has also been instituted in Australia through the recent introduction of a streamlined licensing regime.

Crisis management, which may be reconfigured in Korea, is managed by the Council of Financial Regulators in Australia. The council consists of the Reserve Bank of Australia, the Australian Prudential Regulatory Authority, and ASIC. It is responsible for coordinating regulatory respons-

es to actual or potential instances of financial instability when the need arises and advises the government on the adequacy of Australia's financial system regulatory structure in light of ongoing developments.

As Mr. Shin suggests, "One may conjecture that once a developmental state model is renounced, transformation to a liberal regulatory state, the political economy of Anglo-American countries, is on the way." This does not, however, necessarily mean less stringent regulation, nor the government renouncing complete control. Liberal regulatory states, such as Australia, also require strong governments and a certain degree of control to achieve regulatory objectives. Finding the right historical context and regulatory culture, such as Mr. Shin's "rationalized developmental state," which takes account of Korea's legal and political landscape, will help Korea achieve effective structural and regulatory reform.

## Notes

*Author's note:* Thank you to Sophie McMurray and Rupert Smoker, lawyers from the Office of International Relations at the Australian Securities and Investments Commission, for their assistance writing and researching this commentary.

## **Part II**

# **Supervisory Challenges under a Consolidated Financial System**

## **Part II-1**

# **Supervisory Responses to Financial Consolidation**

## 7. Risks and Supervisory Challenges of Financial Conglomerates in Korea

Joon-Ho Hahm and Joon-Kyung Kim

### Introduction

The structure of the Korean financial services industry has been rapidly transformed since the 1997 financial crisis. Initially driven by the government restructuring program, the combined trends of financial consolidation, conglomeration, and internationalization not only caused a dramatic change in the competition structure but also significantly eroded the effectiveness of the existing regulatory regime in maintaining financial stability. Integration among traditionally separated financial services and the emergence of a few large financial conglomerates have brought about a fundamental shift in the nature of financial risks embedded in the financial system.

While it is necessary to understand the evolving nature and structure of risks implied in the new financial regime, a clear-cut relationship between financial consolidation and financial stability does not exist. Indeed, financial consolidation may increase or decrease risks of individual financial conglomerates. With scale and scope economies and the benefits from increased market power, financial conglomerates may be able to enhance profitability, thereby containing financial risks. However, complexity in operation and incentives to take on more risks based upon “too-big-to-fail” may actually increase the financial risks of large conglomerates.

Financial consolidation and conglomeration may also increase systemic risk potential. The incentives of financial markets as well as regulatory authorities in monitoring and supervising large conglomerates can be significantly undermined. Even if individual conglomerates are able to benefit from diversification, interdependency and mutual exposure among large financial conglomerates may substantially increase as they share homogeneous business portfolios and asset structure.

In the face of the increasingly limited ability of supervisory and monetary authorities to cope with financial risks, it has become an urgent task to devise a new regulatory regime capable of preventing excessive risk-taking of financial conglomerates and regulatory forbearance of financial supervisors. It is also necessary to create an environment where market participants have a strong incentive to monitor risks and penalize financial institutions if they take on too much risk.

Given the imperatives of the supervisory and regulatory reform in the face of ongoing consolidation and conglomeration, we address the following inquiries in the present paper: How can we characterize the financial consolidation process that has accelerated during the postcrisis period in Korea? What is the evolving nature of risks associated with financial consolidation and conglomeration? Do large financial conglomerates composed of various financial businesses differ significantly from the institutions running a single business in terms of risk characteristics? If so, in what manner should the risks of financial conglomerates be contained and managed? How should the systemwide risk that may be amplified to ignite systemic crises be classified, observed, and responded to? What is the nature of the financial safety net in which the perverse incentives of market participants as well as financial regulators can be curbed to reinforce both financial stability and efficiency?

The present paper is organized as follows. The following section summarizes the postcrisis financial restructuring program and characterizes the development in financial consolidation and conglomeration in Korean financial industries. This section also analyzes the shift in financial industry structure by examining the degree of concentration. The next section presents a conceptual framework in order to understand the risk implications of financial conglomeration in Korea. This section also explores potential risk impacts by focusing on the channels through which financial consolidation may influence the financial risks of individual conglomerates and systemic risk potential. The next section outlines the current regulatory framework of financial supervision for financial conglomerates in Korea. The final section discusses policy implications and presents suggestions.

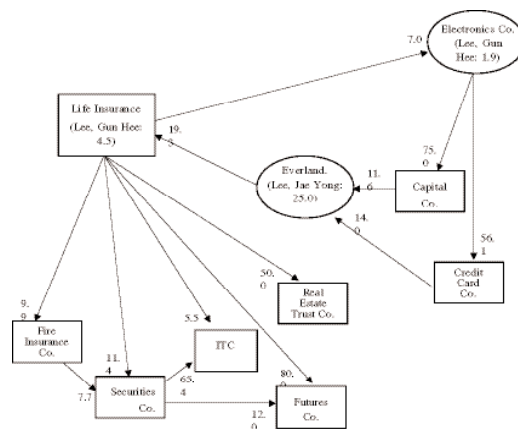


Figure 7.1. Ownership structure of Samsung Group

## The Rise of Financial Conglomerates in Korea

Since the onset of the 1997 financial crisis, the Korean financial industry has seen the rise of financial conglomerates as well as massive consolidation and concentration. Prior to the crisis in Korea, there existed two types of financial groups. One is the “financial conglomerates,”<sup>1</sup> whose business lines were exclusively in financial activities in which the organizational structure took the form of a parent’s participation in financial subsidiaries (parent-subsidiary model); this was partly allowed in the mid-1980s.<sup>2</sup> However, financial institutions in Korea were prohibited from establishing financial holding companies (FHCs),<sup>3</sup> in that financial activity among financial institutions was strictly separated for fear that financial concentration through holding companies would lead to side effects including the potential for anticompetitive behavior. Later on, as will be noted later, financial holding companies were introduced in Korea following the crisis

**Table 7.1.** Financial institutions closed or merged (as of June 2003; unit: number of institutions)

	Total No. of institutions (end-1997) (A)	Type of resolution					Ratio (%) (B/A)	New entry	
		License revoked	Merger	Others <sup>u</sup>	Subtotal (B)				
Banks	33	5	10	—	15	45.5	1	19	
Merchant bank corporations	30	22	6	—	28	93.3	1	3	
Securities companies	36	5	3	2	10	27.8	18	44	
Insurance companies	50	8	6	2	16	32.0	13	47	
Investment trust companies	31	6	1	—	7	23.3	9	32	
Mutual savings and finance companies	231	100	27	1	128	55.4	12	115	
Credit unions	1,666	2	106	463	571	34.3	9	1,104	
Leasing companies	25	9	1	1	12	48.0	4	17	
Total	2,101	157	161	469	787	37.5	67	1,381	

*Note:* Includes dissolution and asset transfers to bridge institutions.

*Source:* Public Fund Management Committee, Ministry of Finance and Economy, *White Paper on Public Fund*.



as a part of the government's restructuring efforts. The other form of financial group prevalent in Korea has been the "mixed conglomerates," which are predominantly commercially oriented but contain at least one regulated nonbanking financial institution (NBFI).<sup>4</sup>

During the restructuring process following the crisis, a number of insolvent financial institutions failed or merged with other institutions. Indeed, as can be seen in Table 7.1, the number of financial institutions in Korea fell from 2,101 in 1997 to 1,381 by the end of June 2003, a drop of 34.3 percent. For the total number of financial institutions undergoing restructuring, 161 institutions out of 787 merged during the same period. In particular, the number of banks sharply decreased—from 33 in 1997 to 19 by the end of June 2003—through closures and mergers. Korea had never experienced such a dramatic turn of events leading to the resolution of major financial institutions. In the case of NBFIs, 28 merchant banking corporations (MBCs), 10 securities companies, 7 investment trust companies (ITCs), and 16 insurance companies had closed down through exits or mergers by the end of June 2003.

### **Resolution of Distressed Institutions and Financial Consolidation**

At the time of the crisis, many Korean financial institutions were significantly undercapitalized, and several of them were effectively wiped out of their capital base. Because of large nonperforming loans (NPLs) and a weak capital base, troubled Korean banks struggled to improve their BIS ratios by curtailing lending, as raising new capital was virtually impossible. Such financial implosion further intensified an already severe credit crunch and resulted in massive corporate bankruptcies. Under these circumstances, the top priority in financial restructuring was the disposal of NPLs and the recapitalization of banks.

The first policy response by the Korean government was to identify insolvent financial institutions and resolve them. In January 1998, the government nationalized two major banks—Korea First Bank and Seoul Bank—that had become insolvent. Moreover, the Financial Supervisory Commission (FSC) ordered twelve other banks that had capital adequacy ratios of less than 8 percent at the end of 1997 to prepare rehabilitation plans by April 1998. In June 1998, five banks were identified as being insolvent, and their rehabilitation plans were rejected by the FSC following a comprehensive review of their financial conditions. Each of these banks was acquired through purchase and assumptions (P&A) agreement by relatively healthy banks (Figure 7.2).<sup>5</sup>

The plans of the other seven banks with capital adequacy ratios below 8 percent at the end of 1997 were given tentative approval to continue operations under the condition that those banks would pursue cost reductions through branch closures and staff downsizing. In addition, the government offered support by recapitalizing the seven banks and purchasing

their impaired assets. As little progress was being made in the restructuring, the government stepped in by encouraging mergers of the troubled banks. As a result, in January 1999, two major banks—Korea Commercial Bank and Hanil Bank—merged to form Hanvit Bank, and again in July

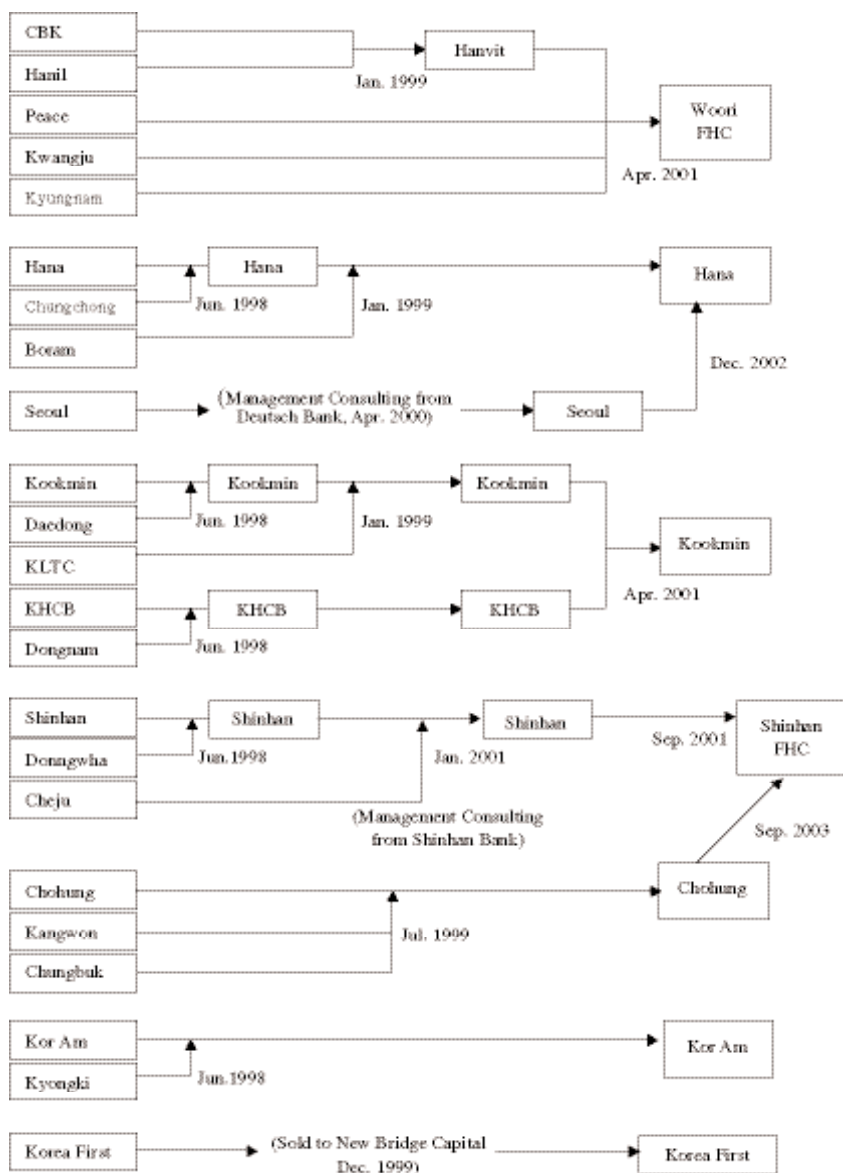


Figure 7.2. Consolidation of Korean banking industry following the crisis

1999, another major bank—Chohung Bank—acquired two regional banks, including Kangwon Bank and Chungbuk Bank.<sup>6</sup>

At the same time, mergers among healthy banks were also undertaken. With support from the government, in January 1999, Kookmin Bank merged with Korea Long-Term Credit Bank, which enabled them to achieve synergy between Kookmin's wide retail network and Korea Long-Term Credit's corporate finance. In addition, amid the wave of consolidation, two other healthy banks—Hana Bank and Boram Bank—merged.

The bank consolidation trend was marked by the merger of two of Korea's major banks—Kookmin Bank, the largest by asset size, and Korea Housing & Commercial Bank, the third largest—in April 2001, to become the largest bank in Korea, despite significant labor opposition. In fact, as of the end of 2003, the Kookmin Bank's assets totaled 214.8 trillion won, accounting for nearly 27 percent of the total assets in the banking sector. Furthermore, in December 2002, Seoul Bank, which had been nationalized following the crisis and unable to find any strategic investors, ultimately merged with Hana Bank.

In the meantime, to deal with the other weak banks, the government passed the Financial Holding Company Act in October 2000 and created a financial holding company in April 2001. Under a holding company structure, numerous synergy effects can be achieved, such as enabling the

**Table 7.2.** Affiliates of financial groups in Korea (as of September 2003; unit: number of institutions)

		Bank	Insurance	Securities	ITC	Card	Others	Total	
Financial conglomerate	Financial holding company	Woori	3	0	1	1	0	5	
		Shinhan	3	1	1	2	1	9	
		Dongwon	0	0	1	1	0	2	4
		Subtotal	6	1	3	4	1	3	18
	Parent-subsidiary model	Banking	8	2	2	4	1	8	25
		Insurance	0	3	1	2	0	1	7
		Securities	0	1	9	7	0	3	20
		Subtotal	8	6	12	13	1	12	52
Mixed conglomerate	Samsung	0	2	1	1	1	2	7	
	LG	0	0	1	1	1	2	5	
	SK	0	1	1	1	0	1	4	
	Others	0	7	7	6	2	13	35	
	Subtotal	0	10	10	9	4	18	51	
Total		14	17	25	26	6	33	121	

Source: Choi (2004).

cross-selling of financial products, lowering funding costs, and streamlining IT investment. At the same time, the government hoped that affiliated companies would be able to retain their client base while being able to avoid employee downsizing, further helping to lessen employee resistance, in contrast to the P&A approach used in 1998.

At first, two nationwide banks (Hanvit and Peace) and two regional banks (Kwangju and Kyungnam) were placed under a government-run holding company, Woori Financial Holdings. Before doing so, the NPLs of candidate banks were disposed of, and in addition, public funds were injected to raise their capital adequacy ratios above 10 percent. Aside from the banks, a securities company, an ITC, and a credit card company were placed under the Woori holding company structure.<sup>7</sup> Then, in September 2001, a second financial holding company was established, Shinhan Financial Holdings, under which Shinhan and Cheju Banks—along with a life insurance company, a securities company, an ITC, and a credit card company—were placed under the same umbrella. In September 2003, Chohung Bank, the fourth-largest bank at the end of 2002, was also placed

**Table 7.3.** Fiscal support for financial restructuring (11/1997–6/2003)  
(Unit: trillion won)

	KDIC and others				KAMCO	Total
	Recapitalization	Capital contribution	Deposit repayment	Purchase of assets	Purchase of NPLs	
Banks	34.0	13.7	0	14.0	24.6	86.2
NBFIs	26.3	3.3	29.8	0.3	14.5	74.2
Merchant banking corporations	2.7	0.2	17.2	0.0	1.6	21.7
Insurance companies	15.9	2.9	0.0	0.3	1.8	21.0
Securities and ITCs	7.7	0.0	0.01	0.0	8.5	16.2
Mutual savings banks	0.0	0.2	7.9	0.0	0.2	8.2
Credit cooperatives	0.0	0.0	4.7	0.0	0.0	4.7
Others	0.0	0.0	0.0	0.0	2.4	2.4
Total	60.3	17.0	29.8	14.3	39.1	160.4

Source: Public Fund Management Committee, Ministry of Finance and Economy, *White Paper on Public Fund*.

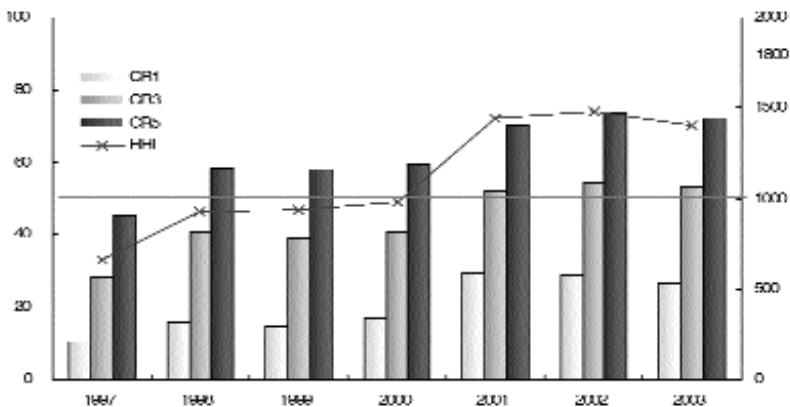
under the Shinhan Financial Holdings, making it the second-largest financial group in Korea.<sup>8</sup>

In tandem with these measures for the resolution of weak or insolvent institutions, the government injected a total of 160.4 trillion won (26 percent of GDP) in fiscal resources to rehabilitate the financial system from late 1997 until the end of June 2003 (Table 7.3). The operating arms of the government in this regard were the Korea Asset Management Corporation (KAMCO) and the Korea Deposit Insurance Corporation (KDIC). Out of the total amount of fiscal support, 60.3 trillion won was used for recapitalization, 39.1 trillion won for the purchase of NPLs, and 29.8 trillion won for the deposit repayments of closed institutions. The recapitalization of financial institutions using public money left a substantial share of the banking sector in the hands of the government.<sup>9</sup>

### Concentration of the Financial Industry in Korea

As a result of the government-led financial restructuring after the financial crisis, which brought about massive consolidation, market concentration increased significantly in Korea's banking industry. To determine the degree of market concentration in Korea's banking industry, we use two types of measurements. The first is the so-called  $k$ -bank concentration ratio ( $CR_k$ ) which takes the market shares of the  $k$  largest banks in the market. The second index we use is the Herfindhal-Hirshman Index (HHI), which is calculated by summing the squares of the individual percent market shares of all the participants in a market.<sup>10</sup> Total assets are taken as the measure of bank size.

As a result of the consolidation trend in the banking industry, market concentration increased significantly, in a large part due to the merger of



**Figure 7.3.** Concentration ratio of the Korean banking industry (based on assets)

Korea’s two large banks, Kookmin Bank and Korea Housing & Commercial Bank. In terms of CR3, the ratio rose substantially—from 28.4 percent in 1997 to 53.2 percent in 2003—as can be seen in Figure 7.3. Similarly, the HHI index showed a sharp increase from 664 in 1997 to 1,497 by the end of 2003, which is considered “moderately concentrated.”

Figures 7.4 and 7.5 show the changes in the concentration ratios of the life insurance and securities industries, respectively. According to the HHI index, Korea’s life insurance industry is considered “highly concentrated,” with HHI exceeding 2,500. Even with Daehan Life Insurance Company losing market share after the crisis, Samsung and Kyobo Life Insurance Companies were able to maintain an oligopolistic market structure, as the industry saw a reduction in the number of smaller-sized companies. As for the securities industry, though a number of firms were closed, there were also a sizable number of new entries, which allowed the industry to maintain a competitive market environment.

Finally, in considering the entire financial industry, Figure 7.6 shows the changes in the concentration ratio of the financial groups instead of individual financial entities. According to the HHI index, although there was a steady increase in the index from 405 in 1997 to 800 in 2003, reflecting the emergence of financial conglomerates following the financial crisis, the level of market concentration is still considered competitive.

## Financial Consolidation and Changing Risks

### Conceptual Framework

As described above, the financial consolidation in Korea encompasses both consolidation of large financial institutions through mergers and acqui-

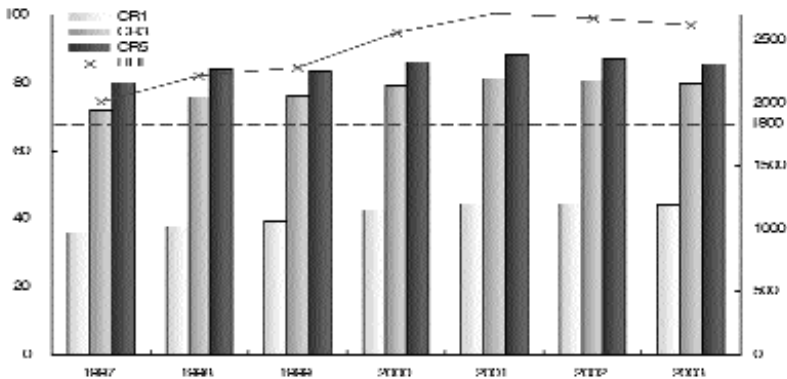


Figure 7.4. Concentration ratio of the Korean life insurance industry (based on assets)

tions (M&As) within the same financial industry and cross-border conglomerations among bank and nonbank financial institutions, either in the form of the parent-subsidiary model or of the financial holding company structure. Note that these two types of consolidations often occur simultaneously, and banks are in general at the center of the consolidation process. As a result, a few large bank-centered financial groups have

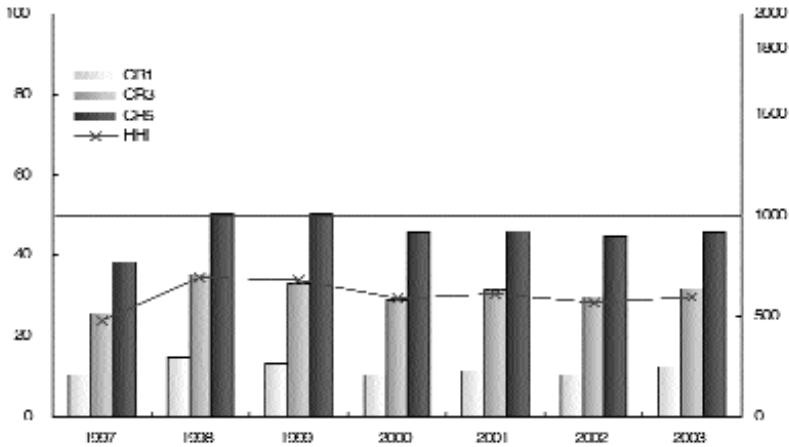
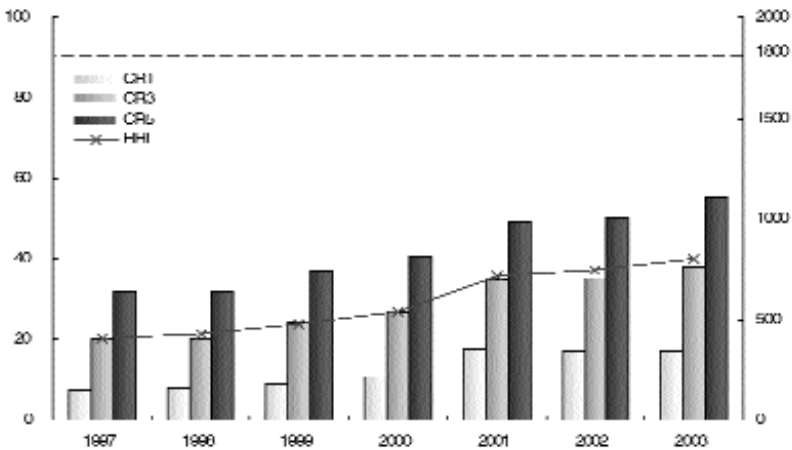


Figure 7.5. Concentration ratio of the Korean securities industry (based on assets)



Source: Bank of Korea (2004).

Figure 7.6. Concentration ratio of the Korean financial group (based on assets)

emerged, within which various nonbank financial institutions are clustered around a large bank. Hence, in this section we explore risk implications of the typical bank-centered financial conglomeration without explicitly distinguishing bank consolidation from cross-industry conglomeration.

Before we examine the implications of financial consolidation on financial risk, it would be informative to explore the relationship between financial efficiency and stability. Traditional literature often suggests that there exists a potential tradeoff between financial efficiency and stability. That is, while large banks with increased market power may potentially undermine competition and the efficiency of resource allocation, they can be more profitable and financially robust, which promotes financial stability. For instance, Keeley (1990) found that the erosion of market power due to increased competition led to higher default risk premium and lower capital ratios for U.S. banks in the 1980s. He argued that, with asymmetric information and provision of bank deposit insurance, lower charter values led to higher risk and failure rates of banks due to moral hazard and agency problems.<sup>11</sup> In retrospect, the bank restructuring policy in Korea during the postcrisis period seems to have been based upon this charter value hypothesis; that is, the implied trade-off between competition and stability. In an effort to promote bank profitability and financial stability, mergers between insolvent banks and creation of large leading banks were often the explicit policy objectives of the government authorities.

Recent research, however, indicates that one cannot ascertain a clear-cut relationship between consolidation and financial stability, challenging the traditional view. First, according to a body of research, financial concentration may not always create market power for large institutions.<sup>12</sup> Indeed, even with few participants, financial markets can be sufficiently contestable.<sup>13</sup>

Second, even though we admit that large financial conglomerates can reduce financial risks, benefiting from increased market power and diversification of their geographic and business portfolios, various features of conglomeration may actually increase the scope for instability, in particular when they lead to a small number of large “national champions,” which are too big and few to fail, to discipline, and to liquidate.

It may be a challenging task to systematically characterize and classify potential channels through which financial consolidation and conglomeration has impact on the risk and stability of a financial system. Following the spirit of the Group of 10 (Ferguson) Report (2001) and De Nicolo et al. (2003), we distinguish financial risks of individual financial conglomerates on a stand-alone basis from systemic risk potential for the financial system as a whole. In this regard, the conceptual framework we employ in investigating risk implications of financial consolidation and conglomeration is summarized in Table 7.4.<sup>14</sup>



*Risk of Individual Financial Conglomerates*

Financial risks of individual conglomerates can be impacted through four conceptually distinctive channels: expected earnings, variability of earnings, operational risk, and risk preference of individual conglomerates. First, profitability and earnings potential would be enhanced for large financial conglomerates if they can exploit and realize scale and scope economies. For instance, financial conglomerates can achieve cost savings

**Table 7.4.** Financial consolidation and financial risks

Types of risk	Channels	Factors
Financial risk of individual conglomerate	Profitability and cost efficiency	<ul style="list-style-type: none"> <li>➤ Scale and scope efficiencies</li> <li>➤ Marke</li> </ul>
	Earnings variability	<ul style="list-style-type: none"> <li>➤ Geographic diversifica</li> <li>➤ P</li> </ul>
	Operational risk	<ul style="list-style-type: none"> <li>➤ C</li> <li>➤ Organ</li> <li>monit</li> <li>➤ H</li> <li>➤ Diffi</li> </ul>
	Risk preference	<ul style="list-style-type: none"> <li>➤ Moral hazard based upon TBTF</li> </ul>
Systemic risk potential	Effectiveness of supervision, Monitoring, and market discipline	<ul style="list-style-type: none"> <li>➤ Regulatory forbearance</li> <li>➤ Concentration and difficulty of orderly workouts</li> <li>➤ Opacity and information asymmetry</li> </ul>
	Direct interdependencies	<ul style="list-style-type: none"> <li>➤ Short-term interbank lending</li> <li>➤ Medium and long-term loans</li> <li>➤ OTC derivative transactions</li> </ul>
	Indirect interdependencies	<ul style="list-style-type: none"> <li>➤ Homogeneous balance sheet structure</li> <li>➤ Homogeneous business/profit structure</li> <li>➤ Common exposure to market risks</li> </ul>
	Contagion from integration, alliance, and reputation, de facto extension of public safety net	<ul style="list-style-type: none"> <li>➤ Risks from nonbank subsidiaries</li> <li>➤ Risks from strategic alliance with nonfinancial companies</li> <li>➤ Exposure to foreign and capital market shocks</li> </ul>

by spreading out large fixed costs required in IT investment over a larger asset base. Subsidiaries in a financial group can also share marketing and distribution channels as well as database and IT systems. Financial consolidation and conglomeration can lead to revenue enhancement if increased size raises market power and if product diversity and cross-selling increase profit opportunities. With enhanced profitability and cost efficiency, the insolvency risk of individual conglomerates would be reduced, *ceteris paribus*. Note also that increased profitability and higher charter value would lessen the moral hazard incentive of large conglomerates.<sup>15</sup>

Second, financial consolidation and conglomeration may lower the risk of individual financial conglomerates with greater opportunities for risk diversification. Geographic consolidation would yield a potential for risk diversification if merged financial firms operate in heterogeneous markets and are expected to show relatively low or negative return correlations. In a similar vein, cross-industry financial consolidation may also contribute to reductions in earnings variability by facilitating product diversification if expected returns are sufficiently heterogeneous across different financial services. On the other hand, as noted by Cumming and Hirtle (2001), the risk faced by a financial conglomerate could be larger than the sum of risks of each subsidiary if the volatility of a subsidiary is affected by the actions of other subsidiaries.<sup>16</sup>

Third, while large conglomerates may be able to benefit from scale and scope economies and risk diversification, operational risk may substantially increase with growing organizational complexity, inefficiencies in management and internal control, heterogeneous culture among subsidiaries, and difficulties of harmonizing risk management. Indeed, large and complex financial conglomerates may no longer be able to understand the exact nature of their risks.

Finally, financial consolidation and the resulting dominance of a few large financial conglomerates can bring about moral hazard for financial conglomerates, especially if they believe they are too big to fail (TBTF). The emergence of a small number of large financial conglomerates creates an incentive for regulatory forbearance because the failure of a large conglomerate will threaten the stability of the entire financial system. In turn, this creates a perverse incentive for financial market participants in monitoring financial conglomerates and penalizing them for taking on excessive risks. Possibilities of regulatory forbearance and weakening market discipline cause moral hazard of large conglomerates, which makes them take risks more aggressively. Note also that, based upon TBTF, risks will be underpriced for large conglomerates, and this implicit subsidy provides further incentives toward additional consolidation and conglomeration. All in all, financial conglomerates may have incentives to pursue riskier investments, and more aggressive risk-taking may offset the risk reduction

effects potentially achievable through revenue enhancement and diversification.<sup>17</sup>

### *Systemic Risk Potential*

As summarized in Table 7.4, financial consolidation and conglomeration has potentially significant implications not only for the risk of individual conglomerates but also for systemic risk potential. As discussed above, the dominance of a small number of large financial conglomerates that are too big and few to fail and increased concentration of the financial industry around these large conglomerates could significantly increase systemic risk potential. Note also that the emergence of TBTF institutions would undermine the effectiveness of financial supervision and market monitoring. As a result, excessive risk-taking and moral hazard of large financial institutions may lead to higher systemic risk potential.

Even in the absence of incentive problems, increasing complexity of financial conglomerates would make it more difficult for regulators and market participants to comprehend risks and take early corrective action. Belated recognition of the problems due to information opacity in turn increases incentives for regulatory forbearance, and sudden disclosure of the problems and possible disorders in the resolution of large ailing conglomerates may cause a serious systemwide disruption.

An increasing degree of interdependence among large and complex financial conglomerates also implies a higher potential for systemic risk. The Group of 10 (Ferguson) Report (2001) indicates that areas of direct interdependency that are most associated with consolidation include mutual credit risk exposures through interbank loans, on- and off-balance sheet activities such as financial derivatives, and from payment and settlement relationships. The systemic risk potential may also increase if large conglomerates are simultaneously and similarly exposed to adverse shocks. While financial conglomerates are able to diversify within each group, they are getting more homogeneous as business areas as well as asset and profit structures become increasingly similar. Resulting indirect interdependencies among large conglomerates raise systemic risk potential as well.<sup>18</sup> Finally, financial conglomeration may aggravate the problem of systemic risk as banks expand their involvement in high-risk activities that are closely tied to nonbank financial firms and capital markets. As a result, banking institutions would be more vulnerable to contagion risks from nonbank and nonfinancial sectors as well as capital markets. The use of identical brand names for affiliated nonbank subsidiaries may also erode the firewall within a conglomerate and increase pressure on both managers and financial regulators to protect the affiliated subsidiaries. The shift of financial savings from bank deposits to affiliated nonbank financial subsidiaries also implies de facto extension of the public safety net.

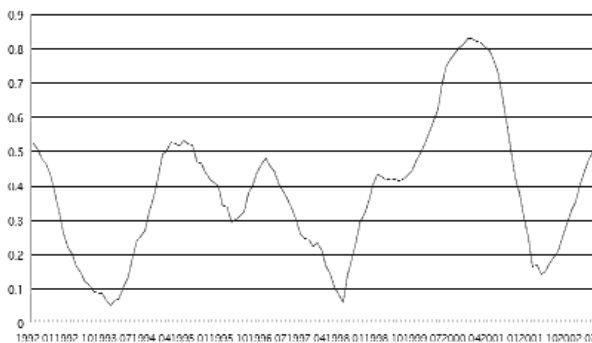
**Diagnostic Analysis of Risk Implications**

*Risk of Individual Financial Conglomerates*

As discussed above, financial consolidation and conglomeration may increase or decrease the financial risks of individual financial conglomerates. With scale and scope economies, financial conglomerates may be able to enhance profitability, thereby reducing financial risks. However, increasing complexity in operation and incentives to take on more risks based upon moral hazard may actually increase the financial risk of large conglomerates on a net basis. As there exists no readily observable, comprehensive measure of financial risks, rather than directly quantifying the risks of financial conglomerates, this section focuses on the respective channels outlined in Table 7.4 to explore the potential implications of financial consolidation and conglomeration.

*Scope of geographic diversification.* To promote financial stability through geographic diversification, sufficient heterogeneity is required across regional markets so that idiosyncratic risks may be diversified away. To diagnose the scope of geographic diversification over a business cycle, we investigated the degree of correlation among regional industrial production.

Figure 7.7 shows the trend in the average cross-correlation among major cities and provinces in Korea from January 1992 to September 2002.<sup>19</sup> The average correlation coefficient turned out to be positive and less than 0.5, except in the period of 1999.6–2001.6, indicating that the potential scope of geographic diversification would be in general limited. However, it is noteworthy that the correlation shows a cyclical pattern with relatively low correlation in business cycle recessions. This implies that geographically well diversified financial conglomerates would suffer less from the adverse impact of recessions on the asset quality and profitability.



**Figure 7.7.** Average cross-correlation in regional industrial production

For more direct evidence on the scope of geographic diversification, we investigated the historical profitability of Korean regional banks. As shown in Table 7.5, earnings of regional banks measured in return on equities (ROEs) for Jeonbuk-Kwangju, Jeonbuk-Kyongnam, Kwangju-Pusan, and Kwangju-Daegu pairs showed a relatively low degree of correlation. This again implies that, while the diversification effect may not be substantial, there could be a potential benefit from the cross-regional consolidation among those regional bank pairs.

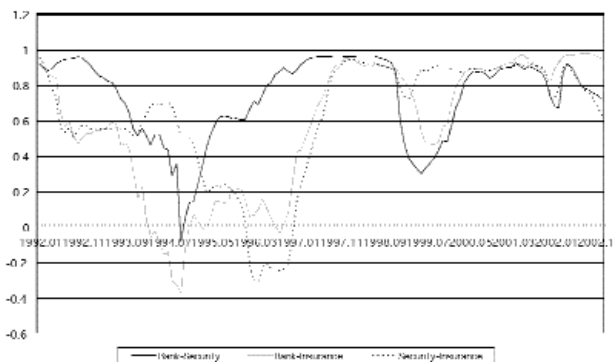
*Scope of product diversification.* Next we focus on the scope of diversification across different financial services industries to explore potential benefits from conglomeration. Table 7.6 shows the cross-correlation in historical earnings measured from the yearly return on assets (ROAs) among

**Table 7.5.** Cross-correlations in the profitability of regional banks (ROAs/ROEs, 1991–2002)

	Cheju	Jeonbuk	Kwangju	Kyongnam	Pusan
Jeonbuk	0.93 / 0.82				
Kwangju	0.89 / 0.67	0.78 / 0.23			
Kyongnam	0.82 / 0.86	0.69 / 0.48	0.90 / 0.93		
Pusan	0.90 / 0.91	0.87 / 0.86	0.86 / 0.44	0.80 / 0.70	
Daegu	0.93 / 0.93	0.90 / 0.90	0.87 / 0.46	0.81 / 0.71	0.99 / 0.99

**Table 7.6.** Cross-correlations in ROAs of financial industries (1991–2001)

	Commercial banks	Securities companies
Securities companies	0.1014	
Life insurance companies	0.8755	0.0882



**Figure 7.8.** Cross-correlations in stock price indices of financial industries

three major financial industries in Korea. Note that the earnings correlation was relatively high between commercial banks and life insurance industries, while other industry pairs—commercial banks and securities and securities and life insurance—showed relatively low correlations. This implies that the alliance between banks and life insurance may be able to produce a positive synergy in profitability. However, it may potentially amplify earnings variability as well.

Figure 7.8 shows the cross-correlation coefficients among monthly stock price indices of banks, securities, and life insurance industries.<sup>20</sup> It is noteworthy that the cross-correlation increased substantially after the financial crisis in 1997–98, implying a limited potential for diversification across different financial industries in the postcrisis period.

*Market power and increased profitability.* As discussed above, there has been a view that consolidation increases franchise value and profitability of large banks and thus lowers the financial risks of consolidated banks. This view in large part hinges upon the assumption that consolidation undermines competition. However, as discussed above, recent studies report evidence that consolidation has only minor effects on competition and market power.

Figure 7.9 shows the trends in the deposit and lending interest rate spread of major commercial banks in Korea for new deposits and new loans extended in a month. Note that the significantly higher spread for relatively large leading banks such as Kookmin and Woori Banks has actually disappeared recently as competition among banks became more intense. This implies that the market power effect of consolidation may not be significant in Korea, and hence, consolidation would not undermine competition due to increased contestability.

*Risk-taking and moral hazard.* Finally, individual financial conglomerates may have incentives to take on risks more aggressively based upon

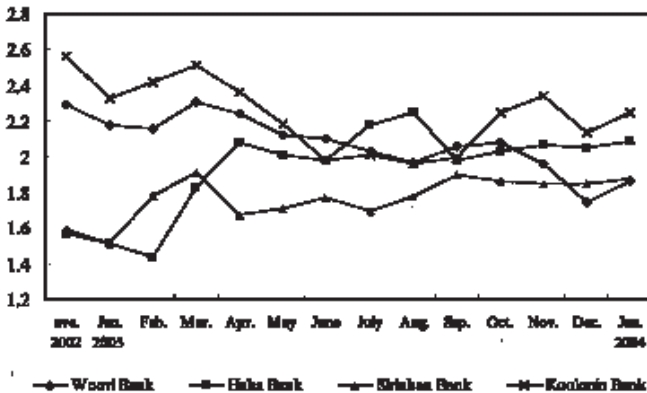


Figure 7.9. Deposit-lending interest rate spreads of major banks

the expectation that they are too big and few to fail. Deteriorations in the monitoring capacity of supervisory authorities and financial markets being faced with ever-increasing complexity and information opacity of financial conglomerates also encourage risk-taking incentives of TBTF institutions.

It is too early to evaluate the change in the risk-taking behavior of Korean financial conglomerates in this regard. As noted above, bank consolidation at an early stage in postcrisis Korea has been driven by the government's restructuring initiative, and the banks in which the government intervened had little freedom of taking risks at their own will, as they were tightly monitored by the Korean Deposit Insurance Corporation and the Financial Supervisory Service.

A recent study on the risk of Korean commercial banks by Kim (2003) found that bank asset risk indicators such as the noncurrent loan ratio and loan loss provision ratio were not significantly associated with bank size variables. However, Kim reported a weakly positive association between bank size and the unsystematic component of stock return volatility, which is a more forward-looking measure of risk relative to the accounting measure. Kim interpreted the evidence as possibly indicating a more aggressive risk-taking behavior of large banks.

#### *Systemic Risk Potential*

As emphasized above, financial consolidation and conglomeration may increase systemic risk potential as incentives of both large financial conglomerates and financial markets and regulatory authorities in monitoring and supervising them may also change. Even without distortions in incentives toward risk-taking, the degree of systemic risk potential may increase with financial consolidation because, although the extent of diversification can increase at individual institutions, financial conglomerates tend to share increasingly similar characteristics in their business portfolios and asset structures. Following the conceptual framework outlined above and in the spirit of the Group of 10 (Ferguson) Report (2001), this section focuses on these risk channels and explores their potential impact on systemic risk in Korea.

*Direct interdependencies among conglomerates.* One such channel of direct interdependencies is mutual exposure of large banks through short-term lending. Figure 7.10 shows the size of call loans relative to bank equity capital for the top three and top five banking institutions in Korea since 1990. As can be seen, the ratio increased systematically during the postcrisis period. The rising credit risk exposure to short-term interbank lending indicates a higher potential for contagion of liquidity risk and hence systemic risk potential. Note also that not only the level but also the variability of the call loan to bank equity capital ratio increased substantially after the crisis.

While the risk exposure of large banking institutions in the short-term lending market has increased substantially, the counterparty risk exposure through financial derivative transactions shows a mixed picture. Figure 7.11 shows the trend in the net position of derivative transactions for the top three and top five commercial banks relative to bank equity capital, which does not reveal a structural increase after the financial crisis.

*Indirect interdependencies among conglomerates.* While diversified within respective financial conglomerates, the structure of the balance sheet and profit strategy may become increasingly similar across financial conglomerates. Figure 7.12 shows the time series of standard deviation in the corporate loan to bank asset ratios for the top five and top ten commercial banks in Korea since 1990. Note that the standard deviation fell gradually for the top ten banks. For the top five banks, the standard deviation had increased during the 1998–2001 period, but then it fell sharply from 2002.

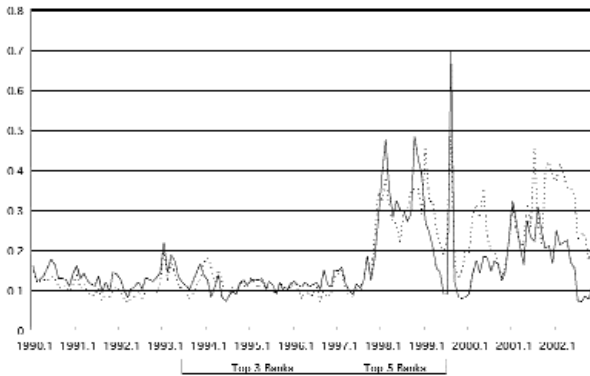


Figure 7.10. Call loan to bank equity capital ratios

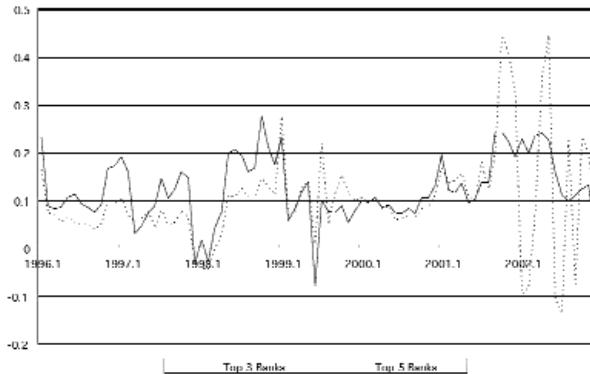


Figure 7.11. Net positions in financial derivative transactions



This reflects that the competition among large banking institutions has become more intense in consumer and retail banking as banks that traditionally focused on large corporate lending gradually shifted their portfolios toward more household and small and medium-sized enterprise loans.

The stock market also seems to perceive these increasing interdependencies among large banking institutions. Aside from direct and indirect interdependencies reflected in the bank balance sheet, a more forward-looking stock market might better capture the degree of mutual exposure and linkage among conglomerates. Indeed, the herd behavior of depositors and financial market investors could provide an additional source for systemic risk. Figure 7.13 shows the trend in the cross-correlation in daily stock prices of the top three banks: Kookmin Bank, Woori Financial Hold-



Figure 7.12. Standard deviations in corporate loan to bank asset ratios



Figure 7.13. Cross-correlations in daily stock price returns of the top three banks

ings, and Shinhan Bank.<sup>21</sup> Note that the cross-correlations became structurally higher from the second half of 2002, which implies that large banks are increasingly simultaneously exposed to market risk and contagion, indicating heightened systemic risk potential.

### **Supervision of Financial Conglomerates in Korea**

As emphasized above, financial groups present the risk of contagion—the spread of financial problems among different entities within the group. In contagion, one entity suffering from financial unsoundness such as an impairment of capital or liquidity or an excessive buildup of risk exposures can place the soundness of the rest of the group at risk, whereas otherwise the group might be sound. Considering this, the supervision of financial conglomerates needs to take a groupwide perspective as well as a solo perspective. Hence, although solo supervision of individual entities continues to be of primary importance, the complementary role of consolidated financial supervision, which assesses the impact on the safety and soundness of operations of all the entities within a group, needs to be emphasized. Indeed, the Basel Committee on Banking Supervision addressed this issue in its 1997 report, “Core Principles for Effective Banking Supervision,” which stated that “*An essential element of banking supervision is the ability of supervisors to supervise the banking group on a consolidated basis.*”

In Korea, among the three types of financial groups—financial holding companies, parent-subsidiary models, and mixed conglomerates—a primitive form of consolidated supervision has been applied only to financial holding companies. Although entities of the parent-subsidiary model and the mixed conglomerate are subject to supervision on a solo basis, there are no groupwide regulations on capital adequacy and restrictions on intragroup transactions such as limits on credit exposure. Moreover, regulators in Korea do not have access to relevant data on nonfinancial subsidiaries, which may be necessary for adequate supervision of the entire group.

As part of the Korean government’s initiative to meet international regulatory standards, the Financial Holding Company Act was introduced in October 2000, which is largely based upon the U.S. Bank Holding Company Act. While sharing most of the key features, the two acts do have some minor differences.<sup>22</sup> Key features of the Korean Financial Holding Company Act can be summarized as follows (Table 7.7).

First, approval of the Financial Supervisory Commission (FSC) is required for establishing a financial holding company based on the following criteria: (1) a sound business plan, (2) qualification for major shareholders, (3) sound financial and management performance, and (4) an adequate equity swap ratio.

**Table 7.7. Key features of financial holding companies in Korea and the United States**

	Korea	United States
Prior approval and standards of authorization	<input type="checkbox"/> Approved by FSC <input type="checkbox"/> Criteria: (1) sound business plans, (2) requirements for being major shareholders, (3) sound financial and management performance, (4) adequate equity swap ratio	<input type="checkbox"/> Approved by FRB <input type="checkbox"/> Financial holding company is a bank holding company that, having met certain (1) capital, (2) managerial, and (3) community reinvestment criteria
Criteria for controlling ownership in subsidiaries	<input type="checkbox"/> FHC must own 50% or more of the affiliates' voting shares (30% or more for a list company). <input type="checkbox"/> In case an affiliate of a FHC seeking ownership control of another affiliate, the requirements are same. <input type="checkbox"/> Financial holding companies are prohibited from owning a nonfinancial firm.	<input type="checkbox"/> More broad interpretation of criteria for being subsidiaries (1) Any company 25% or more of the affiliates' voting securities; (2) any company the election of a majority of directors is controlled in any manner by holding company; (3) any company with respect to the management of which holding company has the power, directly or indirectly, to exercise a controlling influence, as determined by the FRB.
Permissible activities	<input type="checkbox"/> All financial activities including banking, insurance, and securities, etc.	<input type="checkbox"/> FRB has determined activities to be (1) "financial in nature," (2) "incidental to such financial activity," or (3) "complementary to a financial activity" and posing no "substantial risk to the safety and soundness of depository institutions or the financial system generally."
Capital adequacy	<input type="checkbox"/> The sum of the individual net equity capital for individual group members should exceed the sum of the solo capital requirements for individual group members.	<input type="checkbox"/> BIS capital adequacy ratio for the entire group is formulated on a consolidated basis.

<p>Prompt corrective action (PCA)</p>	<p><input type="checkbox"/> The FHCs are ordered to engage in PCAs when the FSC deems it necessary on the basis of the ratio of equity capital to the requisite capital below stipulated level and the composite grade of LOPECM.</p> <p><input type="checkbox"/> Affiliates are prohibited from investment between affiliates in the same group and extending credit to the FHC.</p> <p><input type="checkbox"/> An affiliate's total credit extension with any one affiliate cannot exceed 10% of the affiliate's capital. The affiliate's total credit extensions with all affiliates combined cannot exceed 20% of the affiliate's capital.</p> <p><input type="checkbox"/> Extension of credit among affiliates must be fully secured with qualifying collateral, which must be worth 100 to 130% of the amount of the extension of credit, with the percentage depending on the type of collateral (100% for Korea government securities; 110% for municipal securities, 130% for others).</p> <p><input type="checkbox"/> A FHC or any affiliates cannot purchase a low-quality asset from an affiliate.</p>	<p><input type="checkbox"/> The PCA applies only to FDIC-insured depository institutions and not to bank holding companies.</p> <p><input type="checkbox"/> A bank's total covered transactions* with any one affiliate cannot exceed 10% of the bank's capital. The bank's total covered transactions with all affiliates combined cannot exceed 20% of the bank's capital.</p> <p><input type="checkbox"/> Most covered transactions must be fully secured with qualifying capital. The collateral must be worth 100 to 130% of the covered transaction, with the percentage depending on the type of collateral: 100% for U.S. government securities; 110% for state and municipal securities; 120% for other qualifying debt, and 130% for stock, leases, or other real or personal property.</p> <p><input type="checkbox"/> A bank cannot purchase a low-quality asset from an affiliate.</p>
<p>Restrictions on intra-group transactions</p>	<p><input type="checkbox"/> Affiliates within the same group are allowed to share personal information on customers without consent.</p>	<p><input type="checkbox"/> Affiliates within the same group are allowed to share personal information on customers without consent.</p> <p><input type="checkbox"/> Consumers have the right to opt out of having their information shared with certain third parties.</p>
<p>Information sharin</p>	<p>Note: *A bank engages in a covered transaction when it (1) extends credit to, or for the benefit of, an affiliate; (2) issues a guarantee for the benefit of an affiliate; (3) purchases assets from an affiliate; (4) accepts securities issued by an affiliate as collateral for an extension of credit, including an extension of credit to a third party; and (5) invests in securities issued by an affiliate.</p>	

**Table 7.8. Prompt corrective actions for financial holding companies in Korea**

Measures (decision maker)	Conditions when measures are taken	Management performance	Detailed measures
Management improvement recommendations (governor of FSS)	Ratio of equity capital to regulatory required capital	<input type="checkbox"/> Above the third grade in LOPECM, but below the fourth grade in the evaluation item of "parent company" or capital adequacy <input type="checkbox"/> It seems evident that the above cut-off conditions are not satisfied because of the large financial debacle	<input type="checkbox"/> Improvement in personnel management and organizational operation <input type="checkbox"/> Cost reduction <input type="checkbox"/> Restrictions in fixed asset investment, entry to new business, and new financial investment <input type="checkbox"/> Disposal of insolvent assets <input type="checkbox"/> Recapitalization <input type="checkbox"/> Restriction of dividend payout <input type="checkbox"/> Arrangements of special loan loss provisioning
Management improvement requirements (FSC)	Below 75%	<input type="checkbox"/> Below the fourth grade in LOPECM <input type="checkbox"/> It seems evident that the above cut-off conditions are not satisfied because of the large financial debacle	<input type="checkbox"/> Retrenchment of organization <input type="checkbox"/> Restriction of holding risky assets and disposal of assets <input type="checkbox"/> Requirement of management turnover <input type="checkbox"/> Partial suspension of business operation <input type="checkbox"/> Restructuring of subsidiaries <input type="checkbox"/> Planning of M&A, or transfer of business entirely or partially
Management improvement orders (FSC)	Below 25%	<input type="checkbox"/> Unsound financial institutions specified in the Act Concerning Structural Improvement of Financial Industry	<input type="checkbox"/> Write-off of shares <input type="checkbox"/> Prohibition of execution by management and nomination of manager <input type="checkbox"/> Merger <input type="checkbox"/> Full or partial transfer of business operation <input type="checkbox"/> Third-party takeover of the FHC <input type="checkbox"/> Suspension of business operation for less than six months <input type="checkbox"/> Full or partial transfer of contracts

Second, the financial holding company must own 50 percent or more of the affiliates' voting securities, whereas for a listed company a controlling ownership requirement is 30 percent. In case an affiliate of a financial holding company seeks ownership control of another affiliate, the same requirements apply. Financial holding companies are prohibited from owning a nonfinancial firm.

Third, a financial holding company can engage in all financial activities, including banking, insurance, and securities.

Fourth, the Financial Supervisory Commission has adopted a risk-based deduction approach proposed by the Joint Forum for Financial Conglomerate to assess the capital adequacy of financial holding companies.<sup>23</sup> Accordingly, the sum of the individual net equity capital for individual group members must exceed the sum of the solo capital requirements for individual group members.

Fifth, the financial holding companies are ordered to engage in prompt corrective actions (PCAs) when the Financial Supervisory Commission deems it necessary on the basis of the ratio of net equity capital to the regulatory required capital below stipulated levels and the composite grade of *LOPECM* (Lead subsidiary, Other subsidiary, Parent company, consolidated Earnings, Capital adequacy, and Management). PCA consists of three sets of progressively more stringent corrective procedures (Table 7.8).

Sixth, the Financial Holding Company Act imposes quantitative and qualitative limits on certain kinds of intragroup transactions. An affiliate of a financial holding company cannot make an investment in other affiliates within the same group. Furthermore, an extension of credit to a holding company by affiliates is prohibited. The Financial Holding Company Act imposes limits on credit extension among affiliates. An affiliate's total credit extensions to any one affiliate cannot exceed 10 percent of the affiliate's capital. The affiliate's total credit extensions to all affiliates combined cannot exceed 20 percent of the affiliate's capital. Extensions of credits among affiliates must be fully secured with qualifying collateral. The collateral must be worth 100 to 130 percent of the amount of the extended credit, with the percentage depending upon the type of collateral (100 percent for Korean government securities; 110 percent for municipal securities; and 130 percent for others). A financial holding company or any affiliate cannot purchase a low-quality asset from other affiliates.

Seventh, in order to enhance synergy effects such as cross-selling of products and services among affiliates in a financial holding company, affiliates within the same group are allowed to share information on customers without customers' consent.

## **Policy Implications and Suggestions**

The foregoing diagnostic analysis indicates that one cannot ascertain a clear-cut relationship between financial consolidation and the risk of individual conglomerates or systemic risk potential. However, recent experiences and developments in both advanced countries and emerging market countries seem to indicate that a more consolidated financial system dominated with a few large financial conglomerates may bring about potentially significant financial instability, especially if the concentration and conglomeration create too-big-to-fail problems.

As we have emphasized above, the effectiveness of the existing financial regulatory system has been significantly undermined in the face of ongoing financial consolidation and conglomeration. With the increasingly limited ability of supervisory and monetary authorities to control financial risks and cope with financial disruption, it has become an urgent task to devise a new regulatory regime capable of preventing excessive risk-taking of financial conglomerates and regulatory forbearance of financial supervisors. Given that the regulatory system can become effective only if it is accompanied by strong market discipline, it has also become critical to create an environment where market participants have a strong incentive to monitor risks and penalize financial institutions if they take on too much risk.

In the era of financial consolidation and conglomeration, the regulatory system must be reformed toward a more market and risk-based system, and existing capital-based static financial supervision must also be shifted toward a more dynamic supervision focused on the soundness and effectiveness of management and internal control processes. Furthermore, in safeguarding the financial system, regulations on the governance and disclosure requirements for financial conglomerates need to be further strengthened in order to effectively complement official supervision with internal and market monitoring. With a view to establishing the new regulatory regime, this section addresses policy issues and puts forward a set of policy recommendations for Korea.

### **Strengthening Governance and Risk Management**

The first step to cope with the risk-taking incentives of large financial conglomerates is to establish a transparent and accountable governance system at the financial conglomerates. In the absence of a proper governance mechanism, managers of financial conglomerates may maximize their own benefits at the expense of outside stakeholders such as shareholders and depositors. The costs to investors of monitoring managers are known as agency costs, and the establishment of an effective governance system greatly reduces this agency cost.

Indeed, since the 1997 financial crisis, Korean banks have revamped their internal governance systems. Nonexecutive outside directors, audit

committees, and compliance officer systems were introduced in January 2000 to strengthen the governance and internal control procedures within banks. Furthermore, various reform measures have also been implemented to upgrade bank accounting and disclosure systems in order to facilitate bank monitoring by depositors and investors.

While the governance system and internal control mechanisms were relatively well established for individual commercial banks, the group governance and internal control systems for financial conglomerates have not yet been fully established. Financial holding companies have not fully come to grips with the complex organizational control and risk structures within groups. For instance, as we have seen in the case of the credit card industry in Korea, the failure of risk management at nonbank financial subsidiaries is easily transmitted as a financial loss to affiliated bank subsidiaries regardless of the risk-management effort on the part of bank subsidiaries. Noncompliance of regulations and illegal activities at nonbank subsidiaries also cause significant damage to the reputation of bank subsidiaries as well as the entire financial group that shares an identical brand name.

While the governance systems at respective subsidiaries must be strengthened, parent holding companies need to establish a strong internal mechanism to identify, monitor, aggregate, and effectively control overall group risk, as the individual risks of subsidiaries easily propagate in a nonlinear way. In particular, the governance system at bank subsidiaries needs to be further strengthened in order to prevent possible transfer of risks circumventing internal firewalls among subsidiaries within a financial group. Even if bank subsidiaries are wholly owned by the parent holding company, there must be independent outside directors on the board of bank subsidiaries in order to monitor bank managers on behalf of depositors and outside investors. This is especially so when the deposit insurance backed by taxpayer money is extended to bank liabilities.

Strengthening the risk management capacity at financial conglomerates has become a key task in maintaining financial stability in the face of increased uncertainty and innovative financial flows. With the contagion and nonlinear propagation of risks within a financial group, it is especially important for financial conglomerates to implement a consolidated risk management at the group level. Financial holding companies must be able to identify risk exposures of the entire group and implement a system that avoids excessive concentration of risks by allocating risk limits over the subsidiaries. At the same time, a transparent group risk-management policy framework must be established and consistently applied in which various risk measures and targets are coordinated across the holding company and its subsidiaries within a financial group.

With financial consolidation, the management of operational risks has become a particularly challenging task for large financial conglomerates.



However, regardless of their increasingly complex scope of business, the management of operational risks at Korean financial conglomerates still remains at a rudimentary level. As recently suggested by the Basel Committee (2003), an effective operational risk-management framework requires, as crucial elements, clear strategies and oversight by the board of directors and senior management, a strong operational risk and internal control culture including clear lines of responsibility and segregation of duties, effective internal reporting, and contingency planning. Financial conglomerates must establish clear policies and processes to identify, measure, and control operational risks, and the framework must be consistently implemented at both group and subsidiary levels.

### **Risk-Based Consolidated Supervision of Financial Conglomerates**

Given the increased potential for systemic risk in the presence of large and complex financial conglomerates, more intense and sophisticated supervision is necessary for those potentially too big and few to fail institutions. Effective devices must be introduced to avoid inadvertent extension of the public safety net to cross-sectoral activities such as investment banking and other nonbank financial services. Large financial conglomerates are often important players in capital markets and hence, failures of financial conglomerates present potentially systemic vulnerabilities in direct financing as well as in indirect financing. Thus, ensuring financial conglomerates to maintain a sound asset quality and robust capital base is crucial to the stability of the entire financial system.

For timely and effective monitoring of risks at large financial conglomerates, the supervisory framework must be improved to risk-based consolidated supervision. With traditional static capital-based approaches, it is almost impossible to evaluate accurately the development and propagation of risks implied in the cross-border provision of financial services and market activities of complex financial conglomerates. Risk-based consolidated supervision is an essential element of effective prudential regulation in the era of financial consolidation. Consolidated supervision is based upon consolidated information about the entire financial conglomerate and enables systematic monitoring of risks implied in banking and non-banking activities of subsidiaries from a joint perspective. Consolidated accounting and prudential regulatory measures are integral parts of consolidated supervision.

As described above, consolidated financial supervision has not yet been fully introduced in Korea. Only a rudimentary framework is currently applied to financial holding companies, and no consolidated framework has been introduced for other types of financial groups. For instance, a key prudential supervisory measure is capital adequacy regulation. The capital adequacy regulation for financial holding company groups in Korea is currently based upon required capital. That is, the net sum of equity capital of

the holding company and its subsidiaries must be greater than the simple sum of regulatory capital requirements for respective group member subsidiaries.

Following the spirit of Pillar 1 of the new BIS Basel Accord, the capital adequacy standard for financial conglomerates must be more tightly linked with risk capital aggregated for the entire financial conglomerate. The amount of risk for a financial group could be substantially different from the simple sum of risks at its subsidiaries, as we have shown in the foregoing diagnostic analysis. The capital adequacy standard for financial conglomerates must be able to reflect potential contagion and propagation of risks within a group, and the first step required in this regard is to adopt a framework based upon the group BIS capital ratio computed from fully consolidated financial statements of financial conglomerates.

For the effective consolidated supervision of financial conglomerates, financial supervisors must be equipped with relevant capabilities and organizational structure, as emphasized by Pillar 2 of the new Basel Accord. Special supervisory units for ongoing off-site surveillance of financial conglomerates need to be established, and monitoring and early warning systems must be strengthened. In addition, the supervisors must be able to assess the effectiveness of internal risk management and capital allocation approaches of financial conglomerates.

### **Minimizing Too-Big-to-Fail and Regulatory Forbearance**

As discussed above, large financial conglomerates may engage in moral hazard and aggressive risk-taking given the possibility of regulatory forbearance and expectations of too-big-to-fail. An important way to ensure that financial supervisors do not engage in regulatory forbearance is through strict implementation of prompt corrective action provisions that require supervisors to intervene as early as possible. Prompt corrective action is crucial to preventing failures of financial conglomerates because it creates incentives for the conglomerates not to take on too much risk in the first place, recognizing that if they do so, they are more likely to be subject to regulatory actions.

In Korea, prompt corrective action provisions were first introduced in April 1998.<sup>24</sup> With the passage of the Financial Holding Company Act, a similar prompt corrective action provision was formally introduced for financial holding companies in October 2000. The prompt corrective action for financial holding company groups is currently based upon the group net equity capital to required capital ratio and the LOPECM-based evaluation results.<sup>25</sup> According to the provision, the governor of the Financial Supervisory Service must recommend, require, and order financial holding companies to take necessary management improvement measures if the ratio of net equity capital to the required capital falls below 100 percent, 75 percent, and 25 percent, respectively. As noted above, the criteria

may not fully reflect the risks of financial conglomerates, and hence the criteria for prompt corrective action for conglomerates must be changed into the one based upon the group BIS capital ratio.

Note also that a key element in making prompt corrective action work is the mandatory nature of the scheme, which makes it a credible threat for financial institutions. Hence, discretionary applications of the provision must be minimized. In the case of large financial conglomerates, systemic risk could be a concern when strictly applying the prompt corrective action. However, this systemic risk concern itself brings about moral hazard for large financial conglomerates. Moreover, the expectation of future bailouts causes additional distortions in fund flows and increases the market power of large financial groups, which in turn results in de facto government subsidies to large conglomerates, with taxpayer money as collateral. As argued by Hahm and Mishkin (2000), it is important to recognize that, although large financial conglomerates may be too big to liquidate, they can be closed with their losses imposed on uninsured creditors. Except under very unusual circumstances, the least-cost resolution procedure must be strictly applied, imposing losses on uninsured depositors and creditors.<sup>26</sup>

In a related context, there must be strict limitations on financial group transactions to prevent financial conglomerates from transferring deposit insurance subsidies extended to bank subsidiaries to other affiliated non-bank subsidiaries. As argued by Mishkin (1999), financial consolidation opens up opportunities to reduce the scope of deposit insurance and limit it to narrow bank accounts, substantially reducing moral hazard. The deposit insurance fund backed by taxpayer money must be used only to protect insured depositors of bank subsidiaries and must be effectively insulated from bailing out other subsidiaries.

### **Strengthening Disclosure Requirements and Market Discipline**

Note that the increasing complexity of the asset portfolio and business structures of large financial conglomerates substantially attenuates both the financial authority's supervisory capacity and the monitoring ability of outside stakeholders. An answer to these problems is to have the financial market discipline financial conglomerates by providing more transparent information on the management of large financial groups and by establishing a more market-based supervisory framework. In other words, it is necessary to establish a strong market discipline as a complement to official supervision.

Disclosure requirements are essential for market participants to have relevant information, which allows them to monitor financial institutions and keep them from taking on too much risk. A recent study by the U.S. Federal Reserve Board indicates that disclosure requirements for large complex banking organizations need to be strengthened in areas such as

securitization and loan sales, internal asset risk-rating and loan loss reserve calculations, credit concentrations by counterparty, industry, or geography, market risks, and risks by legal entities and business lines (Board of Governors of the Federal Reserve System 2000). In a similar vein, public disclosure requirements need to be further strengthened for large financial conglomerates in Korea.

With the effort to promote information transparency, supervisory authorities need to introduce more market-based regulatory measures, such as requiring financial conglomerates to issue subordinated debt. Subordinated debt with a ceiling on the spread between its interest rate and the interest rate on government bonds could become an effective disciplinary tool. If a financial group is taking on too much risk, it is unlikely to be able to issue subordinated debt within the designated spread cap. Hence, compliance with the subordinated debt requirement would be a direct way for the market to force financial conglomerates to limit their risk-taking. Alternatively, a differential deposit insurance premium could be charged according to the interest rate on the subordinated debt. Information about whether financial conglomerates can issue subordinated debts and the interest rate on the subordinated debt itself can help the public evaluate supervisors' action, which in turn reduces the scope of regulatory forbearance.

### **Early Recognition and Effective Management of Systemic Risk**

As emphasized above, in the era of financial consolidation and conglomeration, early detection and prevention of systemic crisis are crucially important. To establish an effective preventive mechanism, it is critical to have an institutional channel for communication, cooperation, and checks and balances among related regulatory authorities—especially among the financial supervisory authority, central bank, and the Ministry of Finance and Economy.<sup>27</sup>

While it is the financial supervisor's responsibility to maintain the soundness of financial institutions, it is rather a controversial issue who must bear the responsibility for the development and realization of systemic risk. It is especially true when imprudent macroeconomic policies cause unusual fund flows in the financial system and bring about deterioration in the asset qualities of financial institutions. For instance, the monetary policy of the central bank and the foreign exchange policy of the finance ministry are more or less directly linked with credit boom-bust cycles in emerging market countries. Also, the prudential regulation policy of the supervisory authority is often influenced by the stabilization policy of the finance ministry, which seems to be more politically concerned. Another area that calls for a tight coordination among the related regulators is the payment and settlement system. Disruptions in the payment and settlement system could be a potentially significant source of systemic

risk. The central bank, which is the overseer of the payment and settlement system, must be closely coordinated with the supervisory authority, as the failure of large conglomerates may cause a significant disruption of the system.

In Korea, the Ministry of Finance and Economy (MOFE) is ultimately responsible for the stability of the entire financial system. However, there must be operational institutional mechanisms in which the financial policies of MOFE can be coordinated with the prudential regulation and supervisory policies of the Financial Supervisory Commission (FSC) and the monetary policies of the Bank of Korea (BOK). The institutional scheme must be able to systematically identify and monitor potential sources and propagation channels of systemic risk developments and provide early warning signals for policy makers and financial institutions.

In order for this mechanism to work effectively, an official committee on macrofinancial supervision needs to be established, where the minister of MOFE, the chairman of the FSC, and the governor of the BOK meet on a regular basis and share timely information among the regulatory authorities. For instance, the supervisory authority's institutional microsupervision information must be shared with the central bank's macroeconomic financial market information.

## Notes

1. According to the Tripartite Group of bank, securities, and insurance regulators, the Basel Committee on Banking Supervision (BCBS), the International Organization of Securities Commissions (IOSCO), and the International Association of Insurance Supervision (IAIS), the term "financial conglomerate" is used to refer to "any group of companies under common control whose exclusive or predominant activities consist of providing significant services in at least two different financial sectors (banking, securities, insurance)" (Joint Forum on Financial Conglomerates 1999).
2. Korean banks have been permitted to own securities companies as subsidiaries since 1984.
3. Financial holding companies are defined as entities that control regulated financial intermediaries—typically, depository institutions, insurance companies, or securities firms (Howell Jackson 1997).
4. In Korea, many NBFIs are owned by the *chaebol* (large family-owned conglomerates). According to the Financial Supervisory Commission, the amount of assets for the mixed conglomerates totaled about 180 trillion won as of the end of June 2002, of which Samsung's share of assets totaled about 107 trillion won, or 57 percent (see Figure 7.1 for the ownership structure of the Samsung Group).

5. The suspended banks and their respective acquirers are as follows: Daedong Bank by Kookmin Bank, Dongnam Bank by Korea Housing & Commercial Bank, Dongwha Bank by Shinhan Bank, Chungchung Bank by Hana Bank, and Kyungki Bank by KorAm Bank.
6. Among the seven troubled banks, only Korea Exchange Bank did not merge but received a capital injection from Commerzbank.
7. In 2003, Woori Credit Card Company, experiencing financial distress under a pile of NPLs, was acquired by Woori Bank. According to the OECD report (1993), under a financial holding company, a bank's relation to nonbank affiliates is indirect as there exists a cushion—a holding company—between them. Because the legal separation is more extensive than in the case of the parent-subsidiary model, the cost of producing a given mix of products tends to be more expensive. However, it is often argued that because of the indirect relationship, the safety and soundness of the bank can be more isolated from the nonbank affiliates and the bank may have less incentive to bail out a faltering nonbank affiliate. In practice, the opposite can be said to be true, as nonbank affiliates in distress tend to be rescued, mainly for the purpose of protecting the group's reputation. This is the case for the Woori Credit Card Company, and as a result the Woori Bank's access to the official safety net has been indirectly extended to the nonbank subsidiary.
8. In 2003, another financial holding company, Dongwon Financial Holdings, was established. However, unlike Woori and Shinhan Financial Holdings, only NBFIs were placed under this holding company.
9. Indeed, KDIC currently owns Woori Financial Holdings Company, with 86.8 percent ownership, which includes Woori, Kwangju, and Kyongnam Banks; all three are 100 percent owned by the Woori Financial Holding Company.
10. Regulators assessing the effect of mergers on concentration in local financial markets typically rely on HHI. The U.S. Department of Justice divides the spectrum of market concentration into three categories: not concentrated (HHI below 1,000), moderately concentrated (HHI between 1,000 and 1,800), and highly concentrated (HHI above 1,800).
11. For instance, the view that the erosion of bank market power is associated with financial instability can also be found in Marcus (1984).
12. The Group of 10 (Ferguson) Report (2001) suggests that consolidation of U.S. banking organizations had only a minor effect on market power because most M&As did not increase local concentration in a significant way and because antitrust authorities, potential market entrants, deregulation, and advances in technology increased the degree of competition.

13. Allen and Gale (2000) showed that, under search cost, a branch banking system with only two nationwide banks can lead to a perfectly competitive pricing, while the system with multiple unitary banks may lead to monopoly pricing. Also, contrary to the result of Bikker and Haaf (2000), which reported a negative relationship between concentration and degree of competition, Claessens and Laeven (2003) found that bank concentration is only weakly correlated with the degree of competition as measured by H-statistics. Rather, they argued that it is foreign bank participation and low entry barriers that foster competitive pricing.
14. Hahm and Hong (2003) provide a diagnostic analysis on the risk implications of bank consolidation for Korean banking industry. This section is mainly based upon their analytical framework.
15. Empirical evidence is mixed for the argument that large banks are more efficient and more profitable. For instance, Berger et al. (1999) and Hughes and Mester (1998) reported the existence of a significant scale economy in the U.S. banking industry. Numerous authors, such as Hannan (1991) and Calem and Carlino (1991), also supported the positive association between bank size and market power measured, for instance, by higher lending rate, lower deposit rate, and higher profitability. Craig and Santos (1997) found that profitability increased and risk decreased after the mergers of U.S. bank holding companies. However, there also exists counterevidence. Boyd and Runkle (1993) reported that there was no significant positive relationship between Tobin's  $q$  and the size of U.S. bank holding companies. Also, Akhavein et al. (1997) and Chamberlain (1998) reported that profitability had not significantly improved for banks that had undergone M&As.
16. In general, empirical evidence seems to be relatively favorable for the existence of the geographic diversification effect. For instance, Benston et al. (1995) found that the motivation for mergers in the United States in the 1980s was mainly a risk diversification effect rather than the exploitation of the deposit insurance put option value. Hughes et al. (1996) found that well-diversified interstate banks could reduce insolvency risks. Craig and Santos (1997) found lower default risks as measured by the Z-score and lower stock return volatilities for merged bank holding companies. Demsetz and Strahan (1997) also argued that large banks had lower stock return volatility if their portfolios were held constant. As for product diversification, empirical evidence is more limited. For instance, the studies of Kwast (1989), Boyd et al. (1993), and Kwan (1997), among others, imply that there exists a relatively limited potential for product diversification benefits.
17. A body of research investigated the potential effects of financial consolidation on the risk profile of large financial institutions. While Boyd and Runkle (1993) and Craig and Santos (1997) reported a risk reduc-

tion effect of bank mergers, Chong (1991) found that interstate consolidation actually increased stock return volatility based upon an event study of U.S. bank mergers. Boyd and Gertler (1993) also reported a similar incentive effect for more risk-taking of large banks using U.S. data. In a similar vein, Demsetz and Strahan (1997) argued that financial risks of large banks were not necessarily low as they expanded risky loan portfolios exploiting the diversification effect. De Nicolo (2000) found that default risks of large banks measured by Z-score index actually increased with bank size, not only for U.S. banks but also for European and Japanese banks, which implies more aggressive risk-taking of large institutions. De Nicolo et al. (2003) also reported evidence that the Z-score index was systematically lower and thus default risk was higher for both financial conglomerates and large financial firms based upon the data for world's 500 largest financial firms.

18. The Group of 10 (Ferguson) Report (2001) suggests that interdependencies among large and complex banking organizations have increased over the last decade in the United States and Japan and have begun to increase in Europe. De Nicolo and Kwast (2002) investigated the systemic risk potential presented in the U.S. banking industry over the period of 1988–99 based upon correlation measures of stock returns of large and complex banking organizations and found a positive consolidation elasticity of stock return correlations. They interpreted the evidence as suggesting that the systemic risk potential increased with consolidation in the banking industry. As for the cross-country studies, empirical evidence is mixed. Beck et al. (2003), using a logit model, found that banking crises were less likely in countries with a more concentrated banking system. On the other hand, De Nicolo et al. (2003) reported that the aggregate Z-score index obtained from the top five banks in each country was significantly negatively associated with the degree of bank concentration. That is, bank consolidation is positively associated with the systemic risk potential.
19. At each point in time, we first computed a cross-correlation matrix of industrial production indices among fourteen major cities and provinces using the prior twenty-four months' industrial production time series, and then the average cross-correlation was obtained based on the matrix. Seasonally adjusted industrial production series were used.
20. The cross-correlation coefficient at each point in time was computed using the previous twenty-four month time series for monthly changes in log stock price indices of three financial services industries.
21. At each point in time, we computed cross-correlation coefficient from daily stock returns during the last one month period. The sample period began from November 2001, when Kookmin and Korea Housing



- Bank merged into Kookmin bank. Note also that stock prices of Woori Financial Holdings were available only from June 2002 due to the restructuring and merger process.
22. In the United States, the financial holding company—a bank holding company that, having met certain capital, managerial, and community reinvestment criteria, can engage in any financial activity pursuant to the Gramm-Leach-Bliley Act of 1999.
  23. The Joint Forum, which was established in 1996 under the auspices of the BCBS, IOSCO, and IAIS, has proposed techniques that facilitate the assessment of capital adequacy on a groupwide basis for financial conglomerates and identification of double or multiple gearing, in which the same capital is used simultaneously as a buffer against risk in two or more legal entities (Joint Forum 1999). The Joint Forum prescribes three methods for the measurement of the group capital of financial conglomerates: the building-block prudential approach, the risk-based aggregation approach, and the risk-based deduction approach. The risk-based deduction method emphasizes the amount and transferability of capital available to the parent or other members of the group. Essentially, this approach takes the balance sheet of each company within the group and looks through to the net assets of each related company, making use of unconsolidated regulatory data. Under this method, the book value of each participant in a dependent company is replaced in the participating company's balance sheet by the difference between the relevant share of the dependent's capital surplus or deficit. Any holdings of the dependent company in the other group companies are also treated in a similar manner. However, any reciprocal interest, whether direct or indirect, of a dependent company in a participating company is assumed to have zero value and is therefore to be eliminated from the calculation.
  24. Prompt corrective action provisions were first introduced in April 1998 for commercial banks and merchant banking corporations and then subsequently extended to securities and insurance companies in June 1998 and to investment trust management companies and credit specialized financial companies in 2001. According to the provision, for instance, banks are classified into five groups by the BIS capital ratio and the CAMELS-based evaluation results of bank management. CAMELS is the evaluation criteria for bank performance and denotes capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk, respectively. The supervisory authority could impose various corrective measures whenever banks' BIS ratios and management evaluation grades fall below predetermined criteria.
  25. LOPECM denotes lead subsidiaries, other subsidiaries, parent, earnings consolidated, capital adequacy consolidated, and managerial composite.

26. In December 2000, the Korean government passed the Special Act on Public Fund Management, according to which the Public Fund Oversight Committee was established under the Ministry of Finance and Economy. While the principle of least-cost resolution was formally introduced in the act, it is still possible that the principle can be applied in a discretionary way by the judgment of the committee over systemic risk concerns. To prevent regulatory forbearance in large financial conglomerates, the conditionality for systemic risk exception must be explicitly set out and strengthened further.
27. Kim (2004) provides a comprehensive and detailed case study of the recent failure of credit card industries in Korea and emphasizes the importance of a cooperative and mutually accountable system among public regulatory bodies such as the Ministry of Finance and Economy, Bank of Korea, the Financial Supervisory Service, and the Korea Deposit Insurance Corporation.

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## **8. Risk and Capital Regulations on SME Loans in Korea**

Hyeon-Wook Kim and Chang-Gyun Park

### **Introduction**

In a global financial market, many emerging market financial systems face serious challenges stemming from two separate but closely related issues. The first challenge is the growing trend toward the conglomeration and convergence of financial services across the global financial markets. In coping with these trends, not only financial institutions but also financial regulators are working diligently to measure the risks brought about by consolidation and concentration, as well as seeking optimal directions to manage those risks. Second, a new capital adequacy framework is being prepared to replace the original Basel Accord by year-end 2006, and it is expected to change the financial regulation system to be more risk sensitive. In fact, the Basel Committee on Banking Supervision is responsible for proposing capital requirements for banks operating internationally; but countries that are not members of the thirteen nations represented in the committee are not required to adopt the guidelines established by the committee. Still, pressures from evaluations of international financial markets have been strong enough to get the attention of financial regulators and begin preparation plans.

Korea, especially from the perspective of financial system development as an emerging market country, has not proven to be an exception to these challenges. To address the growing trends of financial globalization and consolidation, there is recognition that replacing traditional institution-based regulations on capital with a system that is function based is necessary. In this respect, Korean financial regulators launched a project to integrate financial laws into a consolidated legal system based on financial activities. However, the directions of the newly proposed amendments to the financial laws indicate that, though the removal of regulatory asymmetries is necessary, the Korean financial system will maintain the regulatory principal of separating the three major financial activities—banking, insurance, and securities—for the foreseeable future. Thus, Korean financial regulators seem to have more time to address the challenge of financial consolidation.

In contrast, the challenge of strengthening regulation on capital adequacy, in preparation of adopting the New Basel Accord, appears to have more imminence in the eyes of Korean financial regulators as well as financial institutions. In Korea, any changes in capital requirement with

respect to the credit risks of small and medium-sized enterprise (SME) exposures are a matter of particular interest, reflecting the decline in the proportion of credit among large corporations from 15.6 percent at year-end 1997 to 5.3 percent at year-end 2003. In contrast, household and SME credit increased from 51 trillion won to 249 trillion won and from 92 trillion won to 217 trillion won in the same period, respectively. In light of this, comprehensive regulatory measures have been implemented to curb household lending, as well as to alleviate the rising threat of default on household loans. Moreover, increasing delinquency rates of SME loans recently have grabbed the attention of Korean regulators in preparation of the proposals established by the Basel Committee.

Loans to small and medium-size enterprises are generally considered to differ from loans to large businesses. Since lenders face fixed lending costs, lending to small firms is by definition more expensive in terms of per dollar lent. In addition, the relationship between the owner/manager of an SME and a bank is often very close. Also, SMEs are more informationally opaque. Because of these structural features, many comments have been made concerning the first draft of the New Accord; in particular, the problem associated with calibrating credit risk for SMEs. Many of the comments argue that the risk-weight curve was too steep and too high, which induced too high risk-weights for SMEs, since many of these firms are generally characterized by relatively high probabilities of default relative to large businesses. Indeed, there are concerns that capital charges that are too large could lead to credit rationing among small firms, thereby possibly reducing economic growth, given the importance of SMEs in the Korean economy.<sup>1</sup> In response to these comments and concerns, the Basel Committee (BIS 2003) introduced major changes in formulating the risk-weight in order to reduce that associated with SME exposures, assuming there is a positive relationship between the obligor's size and correlation, as well as a negative relationship between probability of default (PD) and correlation.<sup>2</sup> However, it may not be rational for bank regulators of emerging market countries to loosen their grip by giving special treatment favorable to SME exposures, since adopting the New Accord without any consideration of a country's specific risk correlation in terms of SME portfolios could be problematic in the sense that the mandatory capital requirement may not be sufficient to cover the economic capital for SME portfolios.

Despite the overall importance of credit correlations in credit risk modeling, but more importantly, in calibrating the risk weight formula under the New Accord, there is little literature that attempts to compute credit correlations. Lopez (2004) used a KMV-type structural model taking an asymptotic single-risk-factor approach and using data from equity markets to provide estimates for large firms. To our knowledge, only Dietsch and Petey (2004) estimate correlation especially for SMEs. Using a one-fac-

tor credit risk model, the authors found that a negative relationship between credit correlation and probability of defaults assumed in formulas in the New Accord cannot be supported by data on French and German SMEs.

In this paper, we examine the current issues regarding capital regulation in Korea, while placing emphasis on the importance of identifying the risk profile of lending portfolios of banks, so that financial regulators can design a sound capital requirement scheme. Using large samples of Korean SMEs with a multifactor risk model that extends the framework of Merton (1974), this paper investigates the relationship between the size and credit correlation of obligor SMEs.

Our paper is organized as follows. The following section gives a brief background on the portfolio structure of the Korean banking industry, along with concerns related to financial regulators, focusing on SME exposures. The next section presents the multifactor credit risk model used to compute credit correlations and data, in addition to an analysis on the relationship between the credit correlation and size of SMEs in the bank's portfolio. The final section concludes the paper.

## Features of the Korean Banking Industry

### Changes in the Portfolio Structure of the Korean Banking Industry

Before the crisis of 1997, Korean banks concentrated on lending to industrial conglomerates (*chaebol*), making it difficult for consumers and SMEs to secure credit. Afterwards, Korean banks strengthened their commercial orientation, allowing them to refocus their activities on their most profitable lending opportunities. Indeed, Korean consumer credit has risen rapidly during the postcrisis years, in which outstanding household loans increased from 51 trillion won at the end of 1997 to 249 trillion won at the end of 2003 (Table 8.1).

**Table 8.1.** Changes in outstanding loans of Korean banks (billion KRW)

	1998	1999	2000	2001	2002	2003
Total loans	-61	48,981	59,361	47,158	100,336	63,174
Corporate loans	-1,971	23,328	22,588	5,794	38,693	33,155
To large businesses	1,111	3,008	4,484	-9,814	1,681	-3,633
To SMEs	-3,081	20,320	18,104	15,608	37,012	36,788
Household loans	1,910	25,653	36,772	41,736	61,797	29,599

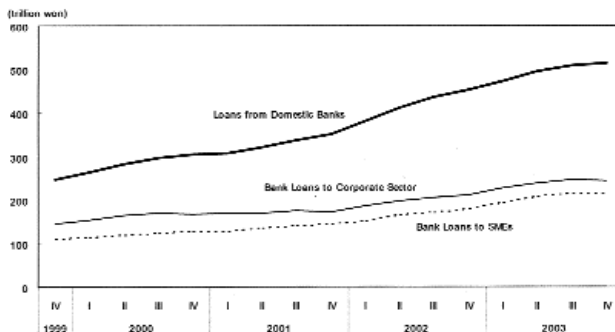
*Note:* Numbers are of the deposit money banks in Korea. All figures indicate end of year.

*Source:* Bank of Korea, financial supervisory services.



A large part of this increase was due to structural changes in the banking sector. Following the crisis, banks became increasingly aware of the risks associated with lending to *chaebol*-affiliated firms, at which time the banks were focused on reducing their debt. Consequently, this led to intense competition among banks to increase lending in the high-profit and low-risk household sector.<sup>3</sup> The rising share of household loans was accompanied by an expansion in total lending, as the financial health of banks was restored as a result of the successful restructuring program. Moreover, rising real estate prices raised the collateral value of households, allowing them to borrow more money.

In addition, loans to SMEs expanded quite substantially in the post-crisis period. Although bank loans to large businesses decreased slightly due to the reduced demand for funding among large companies, there was heightened demand for short-term funding among SMEs in order to increase production activities, as the domestic economy recovered from the crisis. In particular, following the government's measures to rein in household lending, banks that had difficulty in identifying suitable targets for the operation of their funds extended loans to service-oriented businesses and small business proprietors, which was a contributing factor in expanding loans to SMEs. During the five years following the crisis, from the end of 1998 to 2004, SME loans in Korea more than doubled, increasing from 89 trillion won to 217 trillion won. Indeed, the figures show that as total corporate loans increased from 121 trillion won to 245 trillion won in the same period, the share of SME loans increased from 73.7 percent to 88.7 percent, while loans to large companies decreased from 32 trillion won to 28 trillion won (Figure 8.1).<sup>4</sup>



Note: Numbers are of the deposit money banks in Korea.

Source: Bank of Korea, Financial Supervisory Services.

**Figure 8.1.** Outstanding loans of Korean domestic banks by sectors

### Risk Management of Banks and Regulatory Response

These changes in the portfolio structure of the Korean banking industry suggest that the appropriate credit risk management of household and SME loans is key in maintaining the soundness of banks. With respect to household credit, various measures have been taken by the Korean financial supervisory authority to lessen the negative impact of a possible massive default among existing household loans. As household credit rapidly increased as described in the previous section, concerns surfaced that the soundness of banks was at risk due to the looming threat of default among household loans. In the second half of 2002, delinquency rates for household loans started to rise, and since then the Korean government has worked to curb household lending among banks.<sup>5</sup> The financial supervisory commission raised mandatory provisions for household loans (April 23 and October 11, 2002) and made adjustments by lowering the loan-to-value ratio for loans secured with housing as collateral (September 9 and October 11, 2002). Those measures by and large succeeded in curbing the upward trend of household loans or accelerating its downward trend afterward. Considering that these measures taken by the regulatory authority were expected to help Korean banks in alleviating the cost burden related to managing household credit risk, the somewhat generous treatment of household or individual consumer exposures under the modified risk weights formula recently proposed by the Basel Committee (BIS 2003) seems suitable for Korean banks in this respect.<sup>6</sup>

With respect to SME exposures in the Korean banking industry, there seems not to have been a regulatory reaction against its risk so far. The delinquency rates on SME loans have been increasing recently, partly due to continuing stagnant domestic demand since the second half of 2003. In fact, delinquency rates as a whole for SME loans increased from 2.69 percent in September 2003 to 2.98 percent in April 2004. For individual enterprises, such as small business proprietors, loans increased from 2.89 percent to 3.10 percent during the same period. In comparing the delinquency rates for loans to large companies that decreased from 0.84 percent to 0.42 percent, these numbers suggest that the credit risk associated with SME

**Table 8.2.** Delinquency rates on the corporate loans of Korean banks (%)

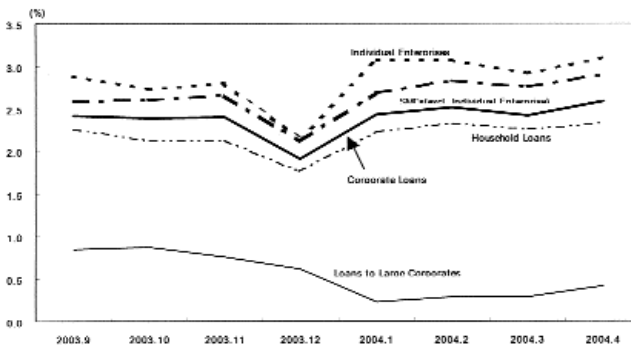
	2001	2002	9/2003	2003	4/ 2004
Total corporate loans	1.9	1.8	2.4	1.9	2.6
To large businesses	1.8	1.1	0.8	0.6	0.4
To SMEs	1.9	2.0	2.7	2.1	3.0
Individual enterprises	2.0	2.1	2.9	2.2	3.1

Source: Financial supervisory services.

loans is quite substantial, especially considering the large proportion of SME loans to total corporate loans. In response to the rising risk of SME loans, Korean banks appear to be taking a more prudent approach in their credit assessment of SMEs (Table 8.2 and Figure 8.2).

On the government side, however, it seems that preventing a possible credit crunch in the SME sector is the only matter of concern for the Korean financial supervisory authority. When banks tighten credit controls over the SME sector, it may lead to credit rationing among SMEs and could reduce economic growth. But financial regulators play a role in supervising the activities of financial institutions, as well as maintaining stability in the financial system to support economic growth. In regulating the banks, financial authorities are burdened with a fine balancing act between curtailing the activities of domestic banks as part of its regulatory mission and providing enough support so as to ensure the role of banks in the allocation of sufficient capital resources to the production industries. While the motives of regulators seem to be at odds, economic growth potential could be threatened if regulators are consumed by the role of supporting economic growth. For example, regulators overly concerned with ensuring an adequate supply of loans to SMEs to secure financial stability may loosen regulation on bank capital.

Even in the discussions and comments surrounding the New Basel Capital Accord, also known as Basel II, we could find similar concerns. After the first version of the New Accord was drafted, many economists and policy makers from various countries pointed out the problem associated with calibrating credit risk for SMEs.<sup>7</sup> They argued that the risk-weight curve was too steep and too high, which induced too high risk-weights for most of the SMEs. These criticisms shared a common belief that loans to SMEs differ from loans to large businesses since the relation-



Source: Financial Supervisory Services.

**Figure 8.2.** Delinquency rates on the loans of Korean banks by sectors

ship between the owner/manager of an SME and a bank is often very close and SMEs are more informationally opaque. That is, because lenders face fixed lending costs, lending to small firms is by definition more expensive in terms of per dollar lent. In fact, the concern is that capital charges that are too large could lead to credit rationing among SMEs, thereby possibly reducing economic growth.

As a response to these comments and concerns, the Basel Committee (BIS 2003) introduced changes in the formula used to calibrate in order to reduce the risk-weight on SME exposures.<sup>8</sup> The committee introduced an adjustment in the risk-weight formula under the IRB (internal ratings-based) approach for corporate credit to firms with turnover between €5 and €50 million by, more precisely, changing the correlation formula with a term that reduces the value of the correlation proportionately to the size of the firm. Furthermore, banks that treat their SME exposures as a homogeneous portfolio (in the same way as they treat their retail exposures) are permitted to apply the retail IRB capital requirements to the portfolio with a more favorable retail risk-weight formula as long as the bank's exposure of any individual SME (with turnover between €1 and €5 million) is less than €1 million.<sup>9</sup>

These recent adjustments in the risk-weight formula for SME loans also allow Korean bank regulators to have some more leeway, since the proportion of SME loans to total corporate exposure in the Korean banking industry is slightly less than 90 percent and about 60 percent of SME loans can be treated as "retail exposures" by banks. Thus, Korean regulators may be persuaded not be concerned about the occurrence of a serious SME credit tightening when adopting the New Accord as a financial supervisory standard.

### **Basel II and Agenda for Korean Bank Supervisors**

The treatment of SME exposures is viewed as especially important in countries like Korea, where SMEs comprise a significant component of the industrial sector and the banking industry's loan portfolio. Under the New Accord proposed by the Basel Committee, lower capital requirements are allowed at up to 20 percent for SME exposures compared to exposures to larger firms. Given the importance of SMEs in the Korean economy, treating credit risk differently on loans for SMEs and large businesses by applying different correlation terms proportional to the size of a firm as proposed by the New Accord seems to be acceptable.

Credit correlation, which is also referred as the default correlation, is an important factor in determining the distribution of losses in a bank loan portfolio. In order to assess risk at the portfolio level, capturing the correlations between individual exposures is crucial. In most of the credit risk models, the correlation measures the degree of sensitivity of the probability of default to the systematic risk factors that represent the "state of the

economy.”<sup>10</sup> The more individual bank loans tend to react simultaneously to systematic risk factors the greater will be the risk for a portfolio.

Under the proposed New Accord, banks will be permitted to separately distinguish exposures to SMEs from large firms. For banks opting to use the standardized approach for SME exposures, a risk-weight for general corporate exposures would be applied, while continuing to apply the 8 percent capital requirement (under the original Basel Capital Accord). However, for exposures to very small firms, banks would be able to apply the fixed retail credit risk-weight of 75 percent to calculate the minimum capital requirement:  $K=EAD \times 0.75 \times 0.08$ , where  $K$  is the capital requirement for SME exposures and  $EAD$  is the exposure at default of the SME credit.

If a bank chooses the advanced internal ratings based (A-IRB) approach for SME exposures, the bank must estimate PD and LGD as well as EAD and consider the maturity factor.<sup>11</sup> With these risk components, the minimum capital levels required against SME credit are calculated using the same formula as for general corporate exposures:

$$K = EAD \times LGD \times \left[ \Phi \left( \frac{\Phi^{-1}(PD) + \sqrt{\rho} \times \Phi^{-1}(C)}{\sqrt{1-\rho}} \right) - PD \right] \times \frac{1 + (M - 2.5) \times B(PD)}{1 - 1.5 \times B(PD)}$$

$$B(PD) = (0.11852 - 0.00548 \times \ln(PD))^2$$

where  $\Phi(\cdot)$  is the cumulative distribution function for the standard normal,  $C$  is the confidence level,  $\rho$  is the credit correlation,  $M$  is the maturity of exposure, and  $B(PD)$  is the maturity adjustment term that is a function of PD.

Therefore, one can find that the required capital as a function of the probability of default can vary substantially depending on the correlation coefficient assumed. In particular, since the foundation approach sets the maturity at 2.5 years and assumes no maturity adjustment, the formula for minimum required capital could be simplified as

$$K = EAD \times LGD \times \left[ \Phi \left( \frac{\Phi^{-1}(PD) + \sqrt{\rho} \times \Phi^{-1}(C)}{\sqrt{1-\rho}} \right) - PD \right]$$

and it is also easy to find that if the correlation is 0, as in an extreme case, the capital requirement is just  $K=EAD \times LGD \times PD$ , and if the correlation is 1, the extreme opposite, the capital requirement is  $K=EAD \times LGD$ .

The New Accord proposed various formulas to calculate the correlation for corporate exposures and made a firm size adjustment (i.e.,  $0.04 \times (1 - (S - 5) / 45)$ ) for exposures to SME obligors:<sup>12</sup>

Correlation for exposures to large firms

$$= 0.12 \times \left( \frac{1 - e^{-90 \times PD}}{1 - e^{-90}} \right) + 0.24 \times \left( 1 - \frac{1 - e^{-60 \times PD}}{1 - e^{-60}} \right), \text{ and}$$

Correlation for SME exposures

$$= 0.12 \times \left( \frac{1 - e^{-30 \times PD}}{1 - e^{-30}} \right) + 0.24 \times \left( 1 - \frac{1 - e^{-30 \times PD}}{1 - e^{-30}} \right) - 0.04 \times \left( 1 - \frac{(S-5)}{45} \right).$$

The small business exposures also can be treated as retail exposures when taking the IRB approach. For retail exposures other than residential mortgage exposures and qualifying revolving retail exposures, lower ranges in credit correlation are allowed under the New Accord compared to corporate exposures:<sup>13</sup>

Correlation for retail exposures

$$= 0.03 \times \left( \frac{1 - e^{-35 \times PD}}{1 - e^{-35}} \right) + 0.16 \times \left( 1 - \frac{1 - e^{-35 \times PD}}{1 - e^{-35}} \right).$$

Therefore, considering that the required capital calculated using formulas under the IRB approach increases with the correlation, banks can reduce the capital requirement for SME exposures by treating them as retail exposures.

Since the Basel Committee’s new proposal allows banks to apply a more favorable retail risk-weight formula to very small businesses, as shown above, and Korean financial regulators may adopt the New Accord with quite minor modifications subject to national discretion, Korean banks that provide corporate credit mainly to SMEs will be able to benefit substantially by adopting the New Capital Adequacy Accord.

However, it is not proven to be rational for bank regulators of emerging market countries to loosen their grip and allow banks to treat more than half of their corporate credit portfolio as retail exposures. Since small firms are considered to be more sensitive to downturns in macroeconomic conditions than larger firms, the probability of default among risky small businesses tends to increase in a recessionary period. Therefore, handling small firms as retail exposures using a more favorable risk-weight formula has two implications for regulators. First, regulators should assume that the degree of increase in the credit correlation of a bank’s SME portfolio in respect to the size of the borrowing firm is greater than what is assumed under the firm-size adjustment term. Second, regulators should also assume that the degree of decrease in the correlation of SME portfolio in respect to the PDs is greater than what is assumed by the correlation formula for the corporate exposures.<sup>14</sup> However, if these assumed positive

relationships between obligor's size and correlation as well as the negative relationship between PDs and correlation are not verified, adopting the New Accord without any consideration of a country's specific risk profile in the SME sector could be problematic in the sense that the mandatory capital requirement may not be sufficient to cover the economic capital for SME portfolios.

In addition, the problem of the systemic risk adds a new dimension that needs to be resolved by financial regulators in adopting the special treatment of SME exposures. Under the new regulation on capital, banks would be allowed to establish their own credit risk management system to find levels of risk characteristics, which is calculated by the system as the most reasonable for their own portfolio, such as the probability of default (PD), the loss given default (LGD), exposure at default (EAD), and default correlation. However, even though each bank maintains capital above the level that is equivalent to the economic capital of its portfolio, it may not be enough when considering that the increasing credit risk of a bank's portfolio can easily spread to other banks. Therefore, in setting out the credit correlation formula for SME exposures, the financial regulatory authority has to examine not only the correlation of the individual bank's SME portfolio but also the default correlation for SME portfolios in aggregate for the whole banking industry.

In the following section, we analyze the credit correlations of Korean SMEs to provide direction for modifying the risk-weight formula that the Financial Supervisory Services may need to determine the level of national discretion when it adopts the New Accord as the major regulatory framework for bank capital.

## Empirical Analysis

### The Multifactor Credit Risk Model

Most of the credit risk models assume that the variance of PDs and correlations are driven by one or several risk factors. Here, the "risk factors" represent various sources that change in the obligor's financial situation, which then influences the credit worthiness of obligors and, as a consequence, the portfolio's asset value (business cycle, for example). Though we used the multifactor model to compute the asset correlation in this paper, a brief introduction of the one-factor model may be better suited for illustrative purposes (Gordy 2000; Dietsch and Petey 2004). In the one-factor model, each obligor  $i$ 's state (that is, the credit indicator for the obligor  $i$ ) is driven by an unobserved latent random variable  $U_i$ , which is defined as a linear function of a single systematic factor  $Z$  and a specific idiosyncratic factor  $\epsilon_i$ :

$$U_i = \beta_i Z + \sqrt{1 - \beta_i^2} \epsilon_i$$

where  $Z$  and  $\epsilon$  are i.i.d. random variables following the standard normal distribution and  $E[Z\epsilon_i]=0$ . The systematic factor represents the state of the economy and measures the effect of the business cycle on the default rate. Hence, the weight  $\beta_i$  assigned to the systematic risk factor measures the sensitivity of obligor  $i$  to evolving general economic conditions. Since these sensitivities are identical for all obligors in the same portfolio ( $\beta_i = \beta \forall i$ ), the correlation between latent variables for the two obligors and in the same portfolio can be written as:

$$Corr[U_i, U_j] = Cov[U_i, U_j] = E[U_i U_j] - E[U_i]E[U_j] = \beta^2$$

As  $\beta$  increases, all obligors tend to be more correlated, while as  $\beta$  decreases, idiosyncratic risk prevails. Therefore, the degree of correlation between loan values is determined by the sensitivity of the latent variables to the systematic factor and the squared sensitivity  $\beta^2$  is the asset correlation  $\rho$ .

In the multifactor model, it is assumed that the variances and correlations of obligors' credit indicators are determined by two or more risk factors. Analogous to the definitions of the one-factor model, one can decompose the unobserved latent random variable  $U_i$  deriving obligor  $i$ 's credit indicator into  $K$  systematic risk factors and the idiosyncratic risk factor as in (1):

$$U_i = \sum_{k=1}^K \beta_k Z_k + \sigma_i \epsilon_i \tag{1}$$

$$\sigma_i = \sqrt{1 - \sum_{k=1}^K \beta_k^2}$$

where  $Z_k$  is the  $k$  the systematic risk factor ( $k=1, \dots, K$ ) and  $\beta^k$  measures the obligor  $i$ 's sensitivity to the systemic factor. Here we also assume that  $Z_k$  and  $\epsilon_i$  are i.i.d. standard normal random variables and  $E[Z_k \epsilon_i]=0$ . In the multifactor model, it is generally assumed that the sensitivity of one obligor to a certain systematic factor is identical to that of another obligor in the same portfolio or group ( $\beta_{ik} = \beta_k, \forall i, k$ ). Under these assumptions, it can be easily shown that the correlation between credit indicators of the two obligors and in the same portfolio is calculated as the squared sum of sensitivity parameters  $\beta_k$ :

$$Corr[U_i, U_j] = Cov[U_i, U_j] = \sum_{k=1}^K \beta_k^2 = \rho \tag{2}$$

where  $\rho$  is now the degree of correlation between credit indicators of two obligors in the same portfolio.



We further divide the systemic factors into  $K^M$  macroeconomic factors and  $K^P$  portfolio-specific factors. Since a portfolio-specific factor by definition affects only a single portfolio, the credit indicator for an obligor in Portfolio  $l$  can be written as:

$$U_i = \sum_{k=1}^{K^M} \beta_{ik}^M Z_k^M + \beta_i^P Z_i^P + \sigma_i \varepsilon_i \quad (3)$$

where

$$\sigma_i = \sqrt{1 - \sum_{k=1}^{K^M} (\beta_{ik}^M)^2 + (\beta_i^P)^2} .$$

*Computation of Correlation*

The multifactor model presented above shares its structure with the basic one-factor model framework of Merton (1974). Following Merton’s model, the obligor’s state or financial position at the end of the planning horizon also depends on the location of the latent variable relative to a “threshold” value, which defines default in the multifactor model. That is, an obligor defaults if the credit indicator falls below the default threshold. Since the latent variable is assumed to be a standard normal random variable, we can set the default threshold level for Portfolio  $l$  such that the probability of default for an obligor  $i$  in the Portfolio  $l$ ,  $p_i$  is equivalent to the probability of the latent variable being smaller than the threshold value:  $p_i = \Pr(U_i^l < \alpha_i) = \Phi(\alpha_i)$ , where  $\Phi(\cdot)$  is the cumulative distribution function for standard normal. Thus, the cut-off value  $\alpha_i$  is simply calculated as  $\alpha_i = \Phi^{-1}(p_i)$ .

From the discussions above, we can construct the conditional probability of default with the realization of the factors in the latent variable:

$$p_i(\bar{Z}) = \Pr(U_i^l < \alpha_i | \bar{Z}) = \Pr\left(\sum_{k=1}^{K^M} \beta_{ik}^M Z_k^M + \beta_i^P Z_i^P + \sigma_i \varepsilon_i < \alpha_i | \bar{Z}\right) \\ = \Pr\left(\varepsilon_i < \frac{\left(\alpha_i - \sum_{k=1}^{K^M} \beta_{ik}^M Z_k^M - \beta_i^P Z_i^P\right)}{\sigma_i}\right) = \Phi(\tilde{\alpha}_i)$$

where .

$$\tilde{\alpha}_i = \frac{\alpha_i - \sum_{k=1}^{K^M} \beta_{ik}^M Z_k^M - \beta_i^P Z_i^P}{\sigma_i}$$

Applying an inverse transformation and making the change in the variable gives:

$$\Phi^{-1}(p_t) = \alpha_t + \sum_{k=1}^{K^M} \hat{\beta}_k^M Z_k^M + \hat{\beta}_t^P Z_t^P \quad (4)$$

where  $\alpha_t = (\alpha_t / \sigma_t)$ ,  $\hat{\beta}_k^M = -(\beta_k^M / \sigma_t)$ , and  $\hat{\beta}_t^P = -(\beta_t^P / \sigma_t)$ .

By regressing the inverse normal of the conditional probabilities to the macroeconomic factors, we can estimate the parameter vector  $(\alpha \quad \hat{\beta}_{1t}^M \quad \dots \quad \hat{\beta}_{K^M t}^M)$  from the regression:

$$\Phi^{-1}(p_{it}) = \alpha_t + \sum_{k=1}^{K^M} \hat{\beta}_k^M Z_{kt}^M + \xi_{it} \quad (5)$$

On the other hand, the residual volatility gives the sensitivity of the inverse normal to the portfolio-specific factor:

$$\hat{\beta}_t^P = \sqrt{\sigma_{\alpha_t}^2 - \sum_{k=1}^{K^M} (\hat{\beta}_k^M)^2} \quad (6)$$

where  $\sigma_{\alpha_t}^2 = \frac{1}{T} \sum_{t=1}^T (\Phi^{-1}(p_{it}) - \bar{\Phi}^{-1}(p_t))^2$  and  $\bar{\Phi}^{-1}(p_t) = \frac{1}{T} \sum_{i=1}^T \Phi^{-1}(p_{it})$ .

Note that

$$\sigma_t^2 = 1 - \sum_{k=1}^{K^M} (\beta_k^M)^2 + (\beta_t^P)^2 = 1 - (\sigma_t^2 \sigma_{\alpha_t}^2) \quad \text{and} \quad \sigma_t^2 = (1 + \sigma_{\alpha_t}^2)$$

Finally, we can obtain a set of parameter estimates by substituting back to get:

$$\alpha_t = (\alpha_t \cdot \sigma_t), \quad \beta_k^M = -(\hat{\beta}_k^M \cdot \sigma_t), \quad \beta_t^P = -(\hat{\beta}_t^P \cdot \sigma_t) \quad (7)$$

We can calculate an estimate of the correlation using the relationship in (2).

**Estimation**

*Data and Construction of Portfolios*

The data consists of information taken from the balance sheets and income statements of Korean SMEs compiled by D&B Korea. This database provides financial and nonfinancial information on companies in three categories: (1) companies listed on the Korean Stock Exchange (KSE) and KOS-

DAQ, (2) externally audited companies,<sup>15</sup> and (3) other companies. The database includes all listed and externally audited companies and some other companies for which periodic acquisition of required information is possible.

For the purpose of this study, an SME is defined as a company that either does not exceed a total capital of 8 billion won or 300 employees. We construct the SME portfolio according to the Standard Industrial Classification (SIC) or asset size. In doing so, a delicate balancing effort between two criteria was required. First, the portfolios were designed with companies that had similar industrial characteristics or asset size of economic interest. The second criterion was insuring that these portfolios had a sufficient size of obligors and credit to reduce small sample concerns.

The SMEs in the database were rearranged in seven groups according to industrial categories. There are three portfolios for the manufacturing sector (Portfolios A, B, C), one for construction (Portfolio D), one for wholesale and retail sales (Portfolio E), one for real estate-related services (Portfolio F), and one for other services (Portfolio G).<sup>16</sup> With respect to asset size, an economically meaningful criterion for constructing the portfolios was less obvious. Hence, we chose size categories to ensure that we captured important aspects in terms of size differential; however, careful attention was given to make the portfolios large enough to provide meaningful empirical results. We allocated all companies into seven groups according to asset size so that each of the Portfolios 1, 2, and 3 include 25 percent of the sample, while each of the Portfolios 4 and 5 include 12.5 percent of SMEs in the sample.<sup>17</sup> Tables 8.3 and 8.4 summarize the financial characteristics of the SME portfolios classified by industrial category and asset size, respectively.

**Table 8.3.** Portfolios of SMEs by industrial categories (million KRW)

Portfolio	Number of companies	Current assets	Total assets	Current debt	Total debt	Capital stock
A	2,034	11,841	25,284	10,204	14,002	3,670
B	2,834	10,556	20,123	9,227	13,414	3,171
C	1,831	10,637	22,546	9,504	13,343	2,664
D	982	23,163	33,943	17,026	29,511	4,290
E	1,784	9,933	17,495	10,458	22,169	2,879
F	305	36,038	98,927	23,882	66,305	21,978
G	1,287	8,329	23,834	8,141	15,462	4,311

*Note:* All numbers are averages for companies in each portfolio based on balance sheet of year 2003.

*Data:* D&B Korea.

*Macroeconomic Factors*

To extract macroeconomic factors assumed to dictate the latent variable in (3) and, consequently, to systemically drive the default probabilities of each portfolio, eight macroeconomic variables are considered: KOSPI stock index (KOSPI), industrial production (IP), wholesale and retail index (SALE), unemployment rate (UNEMP), GDP, yield on three-month CD (CD), yield on three-year corporate bond with A- grade (CBOND), and terms of trade (TOT).

To do so, annual data for the variables from 1992 to 2003 was obtained from the Bank of Korea's statistical database and Korea National Statistical Office. First, subtracting the sample mean and dividing by the sample standard deviation, we obtain a time series of standardized factor returns for the macroeconomic factors. Next, we obtain a set of independent factors such as the linear combination of the correlated macroeconomic factors using a principal component analysis. The use of principal components reduces the number of factors used in estimating the model. Figure 8.3 shows the proportion of variance that each of the principal components explains and the cumulative contributions. The first four principal components explain for about 96 percent of the comovements of all eight macroeconomic factors. Hence, we keep the first four principal components for the analysis to follow and treat the last four principal components as capturing comovements among macroeconomic variables due to nonsystematic noise.

Figure 8.4 plots the factor loadings for the remaining four principal components. For example, the first principal component, which explains for 43 percent of the comovements of the macro variables, has a positive weight (loading) on CD, CBOND, UNEMP, GDP and TOT and a negative weight on KOSPI, IP, and SALES.

**Table 8.4.** Portfolios of SMEs by asset size (million KRW)

Portfolio	Upper bound	Current assets	Total assets	Current debt	Total debt	Capital stock
1	3,672	950	1,539	769	1,053	452
2	10,594	3,951	7,224	3,677	5,086	1,546
3	22,950	8,399	15,585	7,762	10,484	2,480
4	58,978	18,832	36,067	16,824	23,975	5,212
5	–	65,106	161,531	57,448	124,799	24,520

*Note:* All numbers are averages for companies in each category based on balance sheet of year 2003. Upper bound indicates the largest total assets for each portfolio.

*Data:* D&B Korea.

*Definition of Default Event*

The D&B Korea database does not assign a credit rating to almost all of the SMEs unless they are listed on the KSE or KOSDAQ markets. Therefore, it is impossible to compile a time series based on credit ratings for each obligor or credit measures based on historic records of default rates, which is regarded as elemental in most credit risk models.

Instead, we define a default event when a firm cannot cover its interest payments with operating profits three years in a row, that is:

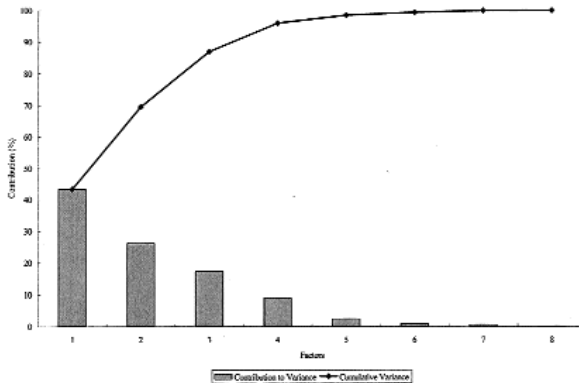
$$y_{it} = \begin{cases} 1 & \text{when } \cap_{r=0}^2 (IPCR_{t-r}^i < 1) \\ 0 & \text{otherwise} \end{cases}$$

where  $y_{it}^i$  is the default indicator for obligor  $i$  in Portfolio  $l$  at time  $t$  and  $IPCR_{it}^i$  is the interest payment coverage ratio for obligor  $i$  in Portfolio  $l$  at time  $t$  defined as the ratio of earnings before interest and tax (EBIT) to interest payment. We can calculate the default rate for Portfolio  $l$  at time  $t$ ,  $p_{lt}$  as:

$$p_{lt} = \frac{1}{I_t} \sum_{i=1}^{I_t} y_{it}^i \quad (7)$$

where  $I_t$  is the number of obligors belonging to Portfolio  $l$ .

There are at least two reasons, theoretical and practical, for choosing IPCR as the default indicator rather than a traditional measure such as historically observed default probabilities of each portfolio. First of all, IPRC would be a reasonable substitute for observations on actual defaults in the absence of an extensive and reliable set of records on the default history of SMEs. Analyzing the default behavior of Korean firms with D&B Korea’s database, Kang et al. (2000) show that an IPRC of less than 1 for three suc-



**Figure 8.3.** Proportion of variance explained by principle components

cessive years is an excellent predictor for “actual” default in the near future.

Second, since we are more interested in accessing the overall degree of credit correlation for SME portfolios in the economy rather than the SME portfolio exposures of individual financial institutions, it would be better to take IPRC as a measure of creditworthiness. Due to the lack of an extensive and reliable network of credit rating systems and accumulation of credit history on individual borrowers, financial institutions in Korea have almost always depended on the value of a collateral in making loan decisions, especially for SMEs. Though the practice of risk management in Korean financial institutions, particularly banks, has improved significantly since the foreign exchange crisis in 1997, it is still too soon to say that the Korean financial industry has equipped itself with a properly working risk management system. The system does not seem to work appropriately mainly due to the lack of sufficient data to input into already installed risk management models. It now seems to be a well-established proposition that it would take at least one more business cycle to accumulate an adequate amount of information to evaluate the performance of the current risk management system.

We obtain a time series of default probabilities for each portfolio using (7) annually from 1992 to 2003. The statistical summary of default probabilities for each portfolio is reported in Tables 8.5 and 8.6.

Portfolio F (real estate) exhibits the highest average and volatility, followed by Portfolio G (services). On the other hand, the manufacturing sector represented by Portfolios A, B, and C shows a low and stable default pattern. In terms of asset size, the most conspicuous pattern is the positive correlation between asset size and average default rate; that is, larger firms measured by asset size tend to fail more frequently than smaller ones. Considering the correlation structure among portfolios in Table 8.7, firms

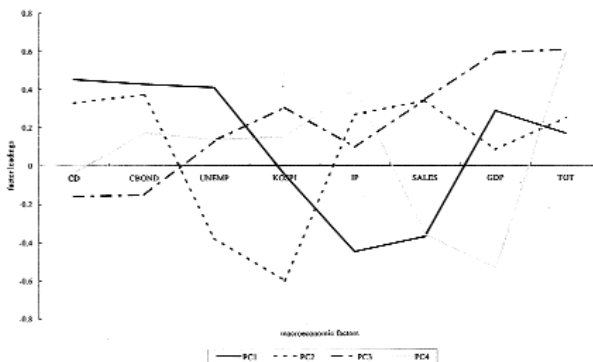


Figure 8.4. Factor loadings for the first four principle components

in the lower half-tail of size distribution (Portfolios 1, 2) show a different default pattern from the ones in the upper half-tail (Portfolios 3, 4, 5).

#### *Estimation of Parameters*

Equipped with time series data based on default rates for each portfolio and standardized factors obtained from a principal component analysis of correlated macroeconomic factors (variables), we can estimate the regression model in (5). The results are reported in Tables 8.7 and 8.8.

Based on the estimates from the regression and the relationships given in (6) and (7), we can calculate a set of parameter estimates for the final interest reported in Tables 8.9 and 8.10.

It is now a pretty straightforward job to obtain the proportion of variances in the inverse normal values of default rates contributed by systemic factors and portfolio specific factors. The larger the contribution of systemic factors the greater the portion of correlation explained by systemic

**Table 8.5.** Correlation matrix for default probabilities: Industrial categories

	A	B	C	D	E	F	G
A	1	-0.5201	0.4589	-0.0216	0.0769	0.5871	-0.1431
B		1	0.1125	0.2408	0.6374	-0.6033	0.7656
C			1	0.5657	0.5865	0.4986	0.1805
D				1	0.2029	0.2912	-0.0393
E					1	0.0702	0.4516
F						1	-0.6494
G							1
Average	0.0307	0.0259	0.0429	0.0502	0.0317	0.1474	0.0634
S.d.	0.0033	0.0136	0.0113	0.0210	0.0083	0.0373	0.0201

**Table 8.6.** Correlation matrix for default probabilities: Asset size

	1	2	3	4	5
1	1	0.8626	-0.0028	-0.2041	-0.7174
2		1	-0.0033	-0.1997	-0.6658
3			1	0.7854	0.1182
4				1	0.5135
5					1
Average	0.0157	0.0221	0.0520	0.0714	0.0908
S.d.	0.0120	0.0138	0.0091	0.0134	0.0126

comovement of macroeconomic variables. Both systemic and portfolio-specific factors constitute the correlation of default probabilities of obligors belonging to the same portfolio.

**Interpretation and Policy Implications**

*Credit Risk Correlation*

The first and second columns of Table 8.11 present the proportion of variance attributable to systemic and portfolio-specific factors for the seven portfolios categorized by industrial characteristics of obligors and five portfolios categorized by the obligor firms’ asset size. From the first seven portfolios classified by industry, we could find that the portfolios of SME exposures in the real estate-related service industry and other service industries (Portfolios F and G) have credit risks that are not sensitive to macroeconomic factors. In contrast, the credit risks of SME exposures in the construction industry (Portfolio D) and wholesale and retail sales industry (Portfolio E) are highly susceptible to systematic risk factors.

For portfolios classified by size of the obligor SMEs, our analysis shows that the portfolios of larger SMEs tend to have risk characteristics that are less dependent on systematic elements. This result seems inconsistent with the general theory on portfolio diversification, since as a firm

**Table 8.7.** Regression for multifactor Merton model: Industrial categories

	A	B	C	D	E	F	G
$\alpha$	-1.8725	-1.9740	-1.7298	-1.6816	-1.8676	-1.0617	-1.5461
Pc1	0.0089	0.0169	0.0397	0.0126	0.0318	0.0063	0.0376
Pc 2	0.0179	-0.0293	0.0022	-0.0158	0.0051	0.0104	-0.0208
Pc 3	0.0138	-0.0413	-0.0119	-0.1605	-0.0017	0.0055	0.0289
Pc 4	0.0081	0.0320	0.0009	0.0331	0.0565	0.0391	0.0001
$\bar{R}^2$	0.9627	0.6333	0.2134	0.3385	0.1395	0.2464	0.5018

**Table 8.8.** Regression for multifactor Merton model: Asset size

	1	2	3	4	5
a	-2.3486	-2.0708	-1.6312	-1.4722	-1.3401
Pc 1	0.0219	0.0352	0.0259	0.0276	0.0041
Pc 2	-0.0373	0.0036	-0.0044	0.0110	0.0005
Pc 3	-0.2058	-0.1385	0.0066	0.0327	0.0206
Pc 4	0.2883	0.0597	-0.0271	-0.0013	-0.0074
$\bar{R}^2$	0.5954	0.5507	0.4021	0.4471	0.1057



grows larger and takes on more assets, its risk and return characteristics should more closely resemble the overall asset market and be less dependent on idiosyncratic elements of individual business lines.<sup>18</sup>

The third column of Table 8.11 presents the credit correlation for the same twelve portfolios of Korean SMEs constructed according to the obligor firm's industrial characteristics and asset size. The estimated correlation values for the first seven portfolios indicate that the differences between the portfolios based on industrial characteristics are very large. In particular, the SME portfolio in the construction industry (Portfolio D) has the highest credit correlation value, 5.46 percent, while the real estate-related service industry has the second highest value, 0.92 percent. Portfolio A, representing the SMEs in the medium-tech manufacturing industry, has the lowest correlation value; however, even the estimated correlation values for each portfolio in the manufacturing sector represented by Portfolios A, B, and C are quite different from each other. These differing values suggest that the financial supervisory authority needs to take into consideration the industrial composition of the banks' SME exposures when it

**Table 8.9.** Parameter estimates: Industrial categories

	A	B	C	D	E	F	G
$\alpha$	-1.8725	-1.9740	-1.7298	-1.6816	-1.8676	-1.0617	-1.5461
$\beta^M$	-0.0089	-0.0167	-0.0395	-0.0125	-0.0316	-0.0062	-0.0373
$\beta^M$	-0.0179	0.0289	-0.0022	0.0157	-0.0051	-0.0104	0.0207
$\beta^M$	-0.0138	0.0407	0.0119	0.1594	0.0017	-0.0055	-0.0287
$\beta^M$	-0.0081	-0.0315	-0.0009	-0.0328	-0.0561	-0.0388	-0.0001
$\beta^P$	-0.0401	-0.1580	-0.1111	-0.1665	-0.0931	-0.1660	-0.1568
$\sigma_i$	0.9989	0.9855	0.9930	0.9734	0.9935	0.9855	0.9865

**Table 8.10.** Parameter estimates: Asset size

	1	2	3	4	5
$\alpha$	-2.3486	-2.0708	-1.6312	-1.4722	-1.3401
$\beta^M$	-0.0182	-0.0331	-0.0257	-0.0274	-0.0041
$\beta^M$	0.0309	-0.0034	0.0044	-0.0109	-0.0005
$\beta^M$	0.1704	0.1305	-0.0065	-0.0325	-0.0205
$\beta^M$	-0.2387	-0.0563	0.0269	0.0013	0.0074
$\beta^P$	-0.2348	-0.1812	-0.0761	-0.0880	-0.0771
$\sigma_i$	0.8280	0.9425	0.9927	0.9903	0.9935

adopts the New Accord and proposed special treatment of SME exposures using the risk-weight formulas. In other words, regulation on a higher level of capital may be required for banks whose SME portfolios are concentrated with firms from the construction or service industry.

For the following five portfolios based on asset size, we found a greater difference between the estimated correlation values. The portfolio with the smallest SMEs (Portfolio 1) has the highest credit correlation value, 14.24 percent, and the portfolio with the largest SMEs (Portfolio 5) has the lowest correlation value, 0.64 percent. In addition to the large differences in correlation values between the portfolios based on firm size, we found that the default correlation values for portfolio decreases as the asset size of the obligor firms increase. As already mentioned above regarding the proportion of variance contributed by systemic and portfolio specific factors, this result also seems inconsistent with the general theory on portfolio diversification. This also indicates that the positive relationship between the obligor’s size and credit correlations assumed using the risk-weight formula proposed by the Basel Committee cannot be supported in Korea. However, considering that Table 8.7 shows a positive relationship between SME size and average probability of default of the respective portfolio, our results can be supporting evidence of a negative relationship between probability of default and credit correlation.

Results of the bivariate analysis using the constructed portfolios based on both industrial characteristics and asset size also show evidence argu-

**Table 8.11.** Systemic and portfolio specific risks

Portfolio	Systemic factors	Portfolio specific factors	Correlation
A	28.9229	71.0771	0.2264
B	13.0969	86.9031	2.8710
C	12.1366	87.8634	1.4037
D	49.2466	50.7534	5.4603
E	32.4715	67.5285	1.2848
F	5.7457	94.2543	2.9246
G	9.6943	90.3057	2.7236
1	98.8605	1.1395	14.2427
2	86.0280	13.9720	5.4152
3	98.2879	1.7121	0.7229
4	97.1565	2.8435	0.9679
5	94.5877	5.4123	0.6438

ing against the existence of a positive relationship between the obligor's size and credit correlation. Even though the proportional relationship is not clear in some industry categories, the estimated credit correlations for the smaller SME portfolios are consistently greater than for the larger SMEs in all respective industry categories.

#### *Simulation of Loss Distribution*

Based on the multifactor credit risk model estimated in the previous section and detailed information on credit exposures of all SMEs included in the study, we can simulate a loss distribution for SME loan portfolios in Korea. We can also easily calculate the level of capital required to cope with the maximum expected loss for a given level of confidence.<sup>19</sup> The results of the simulated level of required economic capital will then be compared with the minimum capital charge for SME loans proposed by the New Basel Accord to examine the reasonability of the new proposal in Korean context.

A firm's exposure is calculated as the sum of short-term and long-term debt, with some minor corrections.<sup>20</sup> We compute the credit exposures of 11,057 firms from D&B Korea's 2003 database. The descriptive statistics are reported in Table 8.12. The distribution skews extremely to the left and has a very thick left tail.

Each simulation consists of the following four steps: (1) drawing a random sample from an independent quint-variate standard normal distribution and calculating the probability of default by using a multifactor credit risk model and the estimated coefficients; (2) computing the expected total number of defaults for each portfolio; (3) drawing a random sample with the size computed in step 2 from the corresponding portfolio; and (4) aggregating the exposures of all sampled firms and taking 50 percent of the sum as loss realized for the simulation.<sup>21</sup> We repeat the simulation 10,000 times for the portfolios constructed by asset size. The distribution and descriptive statistics of the simulated losses are in Figure 8.5 and Table 8.13, respectively. Like the distribution of exposures, the simulated loss shows an extremely skewed and thick left-tailed distribution. Simulated

**Table 8.12.** Descriptive statistics: SME credit exposure (million KRW)

Total exposure	93,624,653
Average	6,987
Standard deviation	22,282
Median	2,571
Skewness	23
Kurtosis	786

losses range from 0.4 percent to 38.9 percent of total exposure, and average loss is almost twice as large as the median loss.

We can compute the required economic capital defined as the difference between the maximum simulated loss for a given percentile and average simulated loss. The first column of Table 8.14 shows required econom-

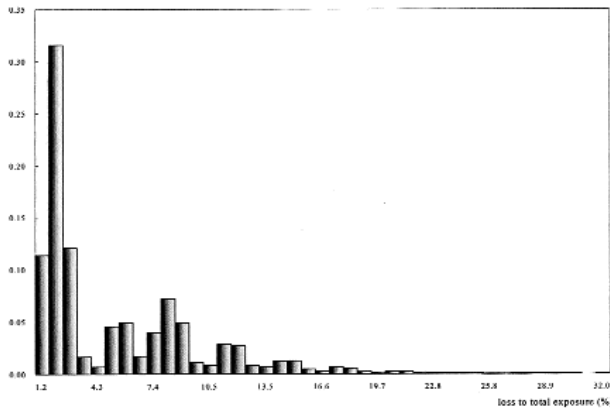


Figure 8.5. Simulated loss distribution: Portfolios by asset size

Table 8.13. Descriptive statistics: Simulated loss (%)

Average	4.87
Standard deviation	4.54
Median	2.30
Minimum	0.46
Maximum	38.90
Skewness	2.87
Kurtosis	9.26

Table 8.14. Comparison of required capital ratio (%)

Percentile	Models	Multifactor model (simulation)	Model by the New Basel Accord		
			A-IRB with no adjustment	A-IRB with SME adjustment	A-IRB with retail adjustment
95.0		9.3	4.0	3.2	2.2
99.0		15.1	7.4	5.7	3.7
99.9		17.1	12.4	9.4	5.8

ic capital computed from the simulated loss distribution for various confidence levels.

For comparison's sake, we also compute the required capital ratio taking the A-IRB (Advanced Internal Ratings-Based) approach under various scenarios proposed by the New Basel Accord.<sup>22</sup> Required economic capital from the multifactor model for a 99 percentile of loss distribution is 15.13 percent, which is far above the 8 percent required level of capital ratio under the current accord. On the other hand, the A-IRB approach under the New Accord results in a more favorable environment for SME loans in the sense that the required capital charges are lower than the current level. For example, if all exposures in the sample are treated as SME loans, allowing for adjustments in credit correlation, only 5.7 percent of the total exposures are designated as capital to cushion the unexpected loss at the 99 percent confidence level. The required ratio is even lower, at 3.7 percent, when all exposures are treated as retail exposures, which is very unlikely if we take into account the fact that companies in our sample are located in the upper band of the size spectrum among small and medium enterprises.

One of the most notable features in Table 8.14 is the large discrepancy in required capital ratios computed between the simulated loss distribution and the formula proposed by the New Accord. Simulated loss distribution using a multifactor model calls for a higher capital charge of 9.4 percent than the New Accord, even after SME adjustment. As the findings reveal, the message is clear for Korean financial supervisors. It could be extremely dangerous to follow the recommendations set out by the New Accord—that is, taking a lenient position toward SME loans without proper consideration of the distinctive features of the Korean market.

In spite of the very useful information delivered by the analysis in this section, the interpretations should be taken with great caution. The results of this analysis should not be used to set an indiscriminate standard for all SME loans since the default probability is most likely to be different from that of an individual bank's SME portfolio. Second, values of many key parameters such as loss given default are arbitrarily assumed to obtain the final result reported in Table 8.14. With an exact configuration of those key parameters, we may end up with a different level of required economic capital ratio, even though obtaining a smaller ratio required by the New Accord is highly unlikely.

## **Conclusion**

In this paper, we examined the current issues regarding capital regulation in Korea, while placing emphasis on the importance of identifying the risk profile of bank lending portfolios so that financial regulators can design a sound capital requirement scheme. After considering the directions of the

newly proposed amendments to the financial laws, we came to a tentative conclusion that Korea will most likely continue to maintain separation between banking, insurance, and securities for the foreseeable future. Hence, rather than focusing on issues regarding capital requirement under a consolidated financial structure, our analysis focused on other important issues related to risk-based capital, as well as on the regulatory framework for capital requirement that is about to change with the adoption of the New Capital Adequacy Accord.

In carrying out our study, we took into consideration the following characteristics of the Korean banking industry. First, most of the assets of bank portfolios consist of household and SME credit. Second, the recently implemented regulatory measures to curb the expansion of household credit have been by and large successful in maintaining the soundness of the banks' portfolios for that sector. Accordingly, this paper has placed priority on analyzing the risk characteristics of SME exposures along with the capital requirement as a way to cope with the risks associated with SME obligors.

Taking large samples of Korean SMEs and running a multifactor risk model that extends the framework of Merton (1974), this paper draws an important policy implication on the relationships between the obligor SME's size and credit correlation. Note that the recently proposed formulas for the risk-weight by the Basel Committee allow for favorable lending treatment toward small businesses under the assumptions of positive relationships between obligor's size and correlation, as well as the negative relationship between PDs and correlation. Accordingly, if the assumptions turn out to be incompatible with the empirical evidence taken from Korea's experience, the regulatory capital requirement set by the New Accord may not be sufficient to cover the economic capital for SME portfolios.

The results of our analysis, first of all, show that the correlation of SME exposures decreases as the asset size of the obligor firms increases. This indicates that the positive relationship between obligor's size and credit correlations assumed in the risk-weight formula proposed by the Basel Committee cannot be supported in Korea. In this light, Korean financial regulators should be careful in adopting the New Accord, especially when treating small business exposures as retail exposures. However, in contrast to our second concern, our analysis found a negative relationship between the probability of default and credit correlation assumed under the risk-weight formula proposed by the Basel Committee. This suggests that treating credit risks differently for SME loans and large business loans by applying different correlation terms proportional to the size of a firm seems to be somewhat acceptable and, in turn, can be adopted by Korean banks and regulators without major modifications.

Our results also suggest that the financial supervisory authority needs to place emphasis on the industrial composition of SME exposures when it adopts the New Accord and proposed special treatment of SME exposures. The differences between the estimated correlation values for portfolios based on industrial characteristics were quite large. In particular, regulators may require banks to have a higher level of capital for SME portfolios that are concentrated in firms from the construction or service industry.

Finally, the simulation exercise based on the multifactor model reveals that the level of capital charge against SME loans to cope with maximum unexpected loss with a reasonable degree of confidence might be much higher than recommended by the New Basel Accord. It would be ill advised to follow the recommendations set out by the New Accord and take a lenient position toward SME loans without proper considerations of the distinctive features of the Korean market.

It may be premature to evaluate the capital requirement framework for SME exposures in the New Accord and therefore suggest detailed directions of its application to the Korean financial regulatory system, since more revisions are likely before the final draft. To cover all the bases, it is also worthwhile to mention the limitations of our analysis. First, the observation period might be too short to cover at least an entire business cycle. This could bring about a selection bias in the measurement of PDs, giving way to the possibility of a misleadingly low volatility in the probability of defaults. The only solution that addresses this would be to accumulate new data over time. Second, the estimated correlations were computed based on a very large sample of Korean SMEs that maybe quasi-exhaustive. This could lead to an underestimation of the credit correlation, since the size of the individual bank's SME portfolios can be far smaller than the data we used, and consequently a bank may observe a higher correlation in its book. Thus, the results of the empirical analysis in this paper should be interpreted with some caveats in mind.

## Notes

1. In Korea, for example, there were approximately 3.0 million SMEs employing 10.4 million persons, or 86.7 percent of the workforce. As for the manufacturing value-added, SMEs accounts for 52 percent (in 2002) of GDP.
2. The most important change was to propose different risk-weight functions for SMEs and large businesses. Indeed, the committee introduced an adjustment in the risk-weight formula for firms with turnover between €5 and €50 million. More precisely, the correlation formula is adjusted by a term that reduces the value of the correlation proportionately to the size of the firm. In addition, banks are allowed to apply the more favorable retail risk-weight formula to very small

- businesses (with turnover between €1 and €5 million), provided that the bank's total exposure to any one firm remains below €1 million.
3. Household loans carry higher interest rates than corporate loans and are exempt from the burden of contributions to the Korea Credit Guarantee Fund (0.3 percent p.a.). Loans secured by housing collateral also attract a lower risk weighting (50 percent, corporate loans 100 percent) in the calculation of the BIS capital adequacy ratio.
  4. During the same five years (1999–2003), the total loans of Korean banks increased from 196 trillion won to 515 trillion won.
  5. The delinquency ratio of Korean banks' household loans decreased from 2.4 percent at the end of 2000 to 1.2 percent in June 2002, but it rose again in the second half of 2002 to 2.6 percent in the first half of 2003.
  6. The New Basel Capital Accord allows banks using the standardized approach to compute the minimum capital requirements against retail credits, including consumer loans and very small business loans, with a 75 percent risk-weight—substantially smaller than the 100 percent risk-weights under the current rules. In fact, it is an empirical question to be analyzed whether the proposed level of 75 percent risk-weight is enough to cover the risk of retail credit in the emerging market countries that are generally considered to have different risk profiles for consumer credits compared to advanced countries, such as member countries of the Basel Committee.
  7. SMEs are defined by the Basel Committee as those with less than €50 million in annual turnover.
  8. The committee first proposed the New Basel Capital Accord in December 2001, with revisions in July 2002 and April 2003. More revisions are likely before the final adoption of the accord. By year-end 2006, Basel II is expected to replace the original Basel Accord, which was implemented in 1992.
  9. The Bank for International Settlements (BIS 2001:55) defines retail credit as “homogeneous portfolios comprising a large number of small, low-value loans with either a consumer or business focus, and where the incremental risk of any single exposure is small.” These types of loans include loans to individuals such as credit cards and residential mortgages, and SME loans could also be included as long as the bank treats these facilities the same way it treats other retail credits.
  10. In the estimation of loan loss distribution, parameters such as the probabilities of default and their variance determine credit correlations. Therefore, a good calibration of these parameters is an important element in portfolio risk management.
  11. The Basel Committee has created two subcategory approaches to the IRB approach: foundation and advanced. Under the foundation



approach, as a general rule, banks provide their own estimates of PD and rely on supervisory estimates for other risk components. Under the advanced approach, banks provide more of their own estimates of PD, LGD, EAD, and M, subject to meeting minimum standards. In both cases, banks must use the risk-weight functions provided for the purpose of deriving capital requirements.

12.  $S$  is expressed as total annual turnover in millions of euros, with values of  $S$  falling in the range of equal to or less than €50 million or greater than or equal to €5 million. Reported turnovers of less than €5 million will be treated as if they were equivalent to €5 million for the purpose of the firm-size adjustment for SME obligors. Subject to national discretion, supervisors may allow banks, as a fail-safe, to substitute total assets of the consolidated group for total turnover in calculating the SME threshold and the firm-size adjustment. However, total assets should be used only when total sales are not a meaningful indicator of firm size (BIS 2003).
13. The credit correlation formula for the retail exposures indicates that the New Accord assumes the correlation for retail exposures cannot be smaller than 0.02 or larger than 0.17; that is, it should be in the range of 0.02–0.17. Note also that the correlation for the corporate exposures is assumed to be in the range of 0.12–0.24, and for the SME exposures, 0.08–0.24. In January 2004, the Basel Committee on Banking Supervision modified the risk-weight functions and related formulas to move to an “unexpected-loss-only” risk-weighting construct by decomposing the original risk-weight functions in to “expected loss” and “unexpected loss.” As a result, the correlation coefficients for the retail exposures were changed from 0.02 to 0.17 in the original formula to 0.03 to 0.16.
14. The assumption of an inverse relationship between PD and correlation assumed in the correlation formula for the corporate exposure is already quite controversial. Most academic studies find a direct relationship such that firms with higher quality and thus lower default probability tend to have less systematic risk and therefore lower correlations, whereas firms with lower quality and thus higher default probability are more subject to market shocks and therefore have higher correlations. See Allen and Saunders (2003) for a discussion.
15. The law on the external auditing of incorporated companies in Korea requires that an incorporated company with assets larger than 7 billion KRW should have various financial documents such as balance sheets examined by external auditor(s).
16. Further details on the constructing portfolios of SMEs can be found in Table 8.15.
17. The threshold values dividing portfolios are different across fiscal years covered by the sample.

**Table 8.15.** Description of portfolio construction by industrial categories

Portfolio	Weight		Standard Industrial Classification	
A	12.79%	D-1	D09	Manufacture of coke, refined petroleum products, and nuclear fuel
			D10	Manufacture of chemicals and chemical products
			D11	Manufacture of rubber and plastic products
			D12	Manufacture of other nonmetallic mineral products
			D13	Manufacture of basic metals
			D14	Manufacture of fabricated metal products, except machinery and furniture
			D23	Recycling
			D15	Manufacture of other machinery and equipment
			D16	Manufacture of computers and office machinery
			D17	Manufacture of electrical machinery and apparatus
B	13.92%	D-2	D18	Manufacture of electronic components, radio, television, and communication equipment and apparatuses
			D19	Manufacture of medical, precision and optical instruments, watches and clocks
			D20	Manufacture of motor vehicles, trailers, and semitrailers
			D21	Manufacture of other transport equipment

Portfolio	Weight		Standard Industrial Classification
C	9.93%	D01	Manufacture of food products and beverages
		D02	Manufacture of tobacco products
		D03	Manufacture of textiles, except sewn wearing apparel
		D04	Manufacture of sewn wearing apparel and fur articles
		D05	Tanning and dressing of leather, manufacture of luggage and footwear
		D06	Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
		D07	Manufacture of pulp, paper, and paper products
		D08	Publishing, printing; reproduction of recorded media
D	9.97%	D22	Manufacture of furniture; manufacturing of articles
		Construction	
E	16.68%	G	Wholesale and retail trade
F	14.84%	L	Real estate and renting/leasing
		M	Business activities
G	11.25%	N	Public administration and defense; compulsory social security
		O	Education
		P	Health and social work
		Q	Recreational, cultural, and sporting activities
		R	Other community, repair, and personal service activities
		S	Private households with employed persons
		I	Transport
		J	Post and telecommunications

18. The general theory of portfolio diversification suggests that, as the number of different securities within a portfolio increases, the portfolio becomes more diversified and the idiosyncratic element of the portfolio's return becomes less important (Lopez 2004). An analogous view could be taken with respect to a firm's asset size as above.
19. To be exact, required economic capital is defined as the difference between the maximum level of loss for a given confidence level and average loss.
20. Funds borrowed from affiliated companies, shareholders, and employees are deducted to capture the external indebtedness of a firm.
21. The procedure assumes that loss given default is 50 percent.
22. The computational details are explained above. The probability of default is assumed to be 4.04 percent, taken from the average default probability in the sample. We set the effective maturity at one and a half years to reflect the average maturity for SME loans in Korea. Loss given default is set to be 45 percent, which is a typical LGD applied to senior claims without collateral.

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## Comments

Howell E. Jackson

Having recently written on the problems of implementing a system of consolidated capital supervision for financial conglomerates, I find myself in agreement with much of what Professor Hahm and Dr. Kim have to say about the challenges of supervising financial conglomerates.<sup>1</sup> In particular, I agree with their claim that the impact of financial conglomeration on institutional risk-taking and systemic risk is ambiguous. This is a point I have explored in my own writing on the subject, albeit in a slightly different mode of analysis than the one presented in their paper. My examination of the subject focused on theoretical indeterminacy as to whether capital requirements of financial conglomerates should be greater than or less than the sum of the capital requirements of regulated entities within a consolidated group. To the extent that financial conglomerates are more diversified geographically and across financial sectors, consolidation should tend to produce more stable organizational structures, requiring less regulatory capital. On the other hand, financial conglomerates may also impose certain additional risks on their operating units—such as the risk that financial difficulties in one affiliate will cause additional losses or a decline in market confidence in other entities within the same organization—and effects of this sort could make the entities operating within a consolidated structure more prone to failure than are independent entities and thus deserving higher regulatory capital requirements. How these effects balance out is impossible to determine a priori.

While making similar points about the indeterminacy of conglomerate risk, Hahm and Kim are centrally concerned with whether the recent consolidation associated with Korean financial conglomerates might have increased riskiness of financial conglomerates, as these organizations have become so large that regulatory officials will be unwilling or unable to impose adequate supervision. The relationship between size and regulatory oversight is a nice and important point. As Hahm and Kim note, analysts often assume that monopoly rents will tend to reduce firm riskiness, as this competitive advantage produces a unique asset—almost an additional layer of capital—that will disappear should the firm holding a dominant market position fail. If, as Hahm and Kim's analysis suggests, the efficacy of financial regulation decreases as financial firms become consolidated, then the cushion of monopoly rents may be more than offset by a decrease in supervisory control, thereby increasing individual firm risk and potentially systemic risk.

Having raised the possibility that financial conglomeration may have negative implications for regulatory control under certain circumstances, one must then face the empirical question of whether this drawback (along with other drawbacks of the conglomerate form) outweighs the benefits of financial conglomerates, principally through geographic and product diversification but also through operational efficiencies. On this score, Hahm and Kim present some original research into various correlations within industry sectors and across industry sectors in the Korean financial services market. While correlations vary in different contexts, their interpretation of the data is that correlations in performance are relatively high, suggesting that the benefits of diversification are lower than one might have expected.

While these correlations are suggestive, I believe more work on this dimension of their analysis would be fruitful. Benefits from diversification exist even when activities have positive correlations, even correlation coefficients well above 0.5. There are, in addition, more comprehensive measures that can be used to compare the risk profiles of consolidated and unconsolidated activities.<sup>2</sup> It would be interesting to assess the impact of consolidation of financial services firms in Korea with these broader measures. The Korean case is of particular interest because it appears that the capitalization of Korean financial intermediaries has increased in the post-crisis period, albeit with a substantial volume of government investment. Inasmuch as the default risk of individual institutions depends on both earnings variability and capital, measures of conglomerate riskiness that reflect both differences in earnings variability and capital support would be useful.<sup>3</sup>

An even larger question raised in the Hahm and Kim paper concerns the policy implications of their analysis: What should Korean regulators do to address the fact that Korean financial conglomerates may enjoy smaller diversification benefits than assumed and may also be subject to reduced supervisory scrutiny because of the difficulty that regulators will encounter disciplining these firms once large financial conglomerates are in place? Hahm and Kim offer a number of sensible suggestions here, but each of their principal suggestions has its own limitations.

One approach they recommend is imposing a more stringent system of prompt corrective action on financial conglomerates. While laudatory, prompt corrective action depends on accurate capital measures, and at the present time we lack a good system of capital adequacy regulation for conglomerates (partially because it is so difficult to determine the effect of consolidation on group risk). The Basel II proposals include some rudimentary rules governing financial conglomerates, but their approach is crude, making adjustments for neither diversification benefits of financial conglomerates nor the unique risks that financial conglomerates may pose nor the too-big-to-fail considerations that Hahm and Kim identify.<sup>4</sup> Plus

there is the problem of determining how much capital financial conglomerates should hold for nonfinancial affiliates and minority interests in other firms. To the extent that prompt corrective action depends on accurate measures of groupwide capital adequacy, reliance on this regulatory tool is hardly a perfect instrument for supervisory control.

As an alternative, Hahm and Kim also recommend increased supervisory oversight of financial conglomerates. In making this recommendation, they follow Pillar 2 of the Basel II Accords, as well as the recently adopted European Union Directive on Financial Conglomerates. And there is much to commend this approach; where formal rules of regulatory oversight are infeasible, more open-ended supervisory standards are a logical alternative. One should not, however, underestimate the difficult that supervisors face in gaining enough knowledge of the business of a complex financial conglomerate to understand with genuine sophistication the risk profile of such a firm. Firms themselves are constantly revising their own risk analyses and often make mistakes or revise practices. At best, I think, supervisory oversight can try to understand how financial conglomerates monitor and manage firmwide risks. On occasion, it may be clear that some firms are not following practices adopted elsewhere in the industry, and supervisors may be well situated to require the adoption of best practices in the field. To the extent that the activities of one affiliate within the group generate risks for other affiliates, managers should be attentive to this interdependence, and regulatory officials can benefit from gaining a better understanding of how management assesses these risks that are unique to financial conglomerates. One should, however, recognize that there are certain kinds of risks—in particular systemic risks—that firms themselves are unlikely to police. After all, the possibility that a conglomerate's failure might have negative implications for other aspects of the economy is not a matter of great interest to management. What management cares about is the possibility that a firm will fail—not systemic risks that regulators may confront after the failure.

On the issue of market concentration, Hahm and Kim's paper makes me wonder whether there is not a better way to deal with the possibility that financial consolidation might reduce the intensity of supervisory oversight. Their paper's analysis proceeds on the assumption that once firms get over a certain size, their market power starts to undermine regulatory efficiency.<sup>5</sup> But if that is the case, another approach would be for financial regulators to limit the ability of firms to enter into mergers or acquisitions above the relevant threshold. U.S. banking regulators engage in such an exercise when reviewing bank mergers and routinely order divestitures of branches in certain markets if the acquisition would push market concentrations above certain levels.<sup>6</sup> Not only would this approach reduce the ability of financial conglomerates to extract monopoly rents—the primary motivation for divestitures in the United States—but it would



also retain the efficacy of regulatory oversight of most concern to Hahm and Kim. (One could imagine similar regulatory scrutiny and potential divestiture orders if market concentration occurred as a result of internal growth as opposed to acquisitions.)

Finally, as a foreign observer of Korean financial regulation, I cannot help but be struck by the limited role of foreign competition in the Hahm and Kim analysis. In both their discussion of geographic markets and their assessment of the difficulties that Korean regulators would face in disciplining larger financial conglomerates, Hahm and Kim give little attention to the role of foreign markets and foreign firms. One could, for example, consider analyzing the benefits of geographic diversification by taking into account the ability of financial conglomerates to expand outside of Korea (or for that matter of foreign firms to expand into the country). In addition, to the extent that Korean regulatory officials feel constrained in their ability to liquidate large domestic financial conglomerates, one solution would be to sell those firms (or portions thereof) to foreign entities. While other political considerations may complicate such transactions, the existence of foreign purchasers would increase the ability of Korean regulators to resist the temptation to prop up failing domestic firms with a substantial market presence. At least this is an option that may warrant further study.

## Notes

1. See Jackson (2005).
2. For an analysis making use of broader measures in assessing the impact on risk through financial conglomerates, see Kuritzkes et al. (2003).
3. For example, another approach to the subject is to use Z-scores, which factor in both variations in profitability as well as capital levels, thereby given a measure of the likelihood of failure. A number of studies cited in the Hahm and Kim paper report Z-scores.
4. See Jackson (2005).
5. Note that the evidence that Hahm and Kim present on this issue is fairly weak. Indeed, much of their evidence points more toward the Korean financial services markets being relatively competitive. Even the HHI indices they report are not especially troubling, aside from the insurance industry.
6. See Jackson and Symons (1999).

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# Comments

Hyun Song Shin

The Basel II proposals, recently agreed upon, have some peculiarities. One of them is the treatment of small and medium-sized enterprises (SMEs), the subject of the current paper. Under the advanced internal ratings-based approach (A-IRB) that will be used by most major banks in the G-10, the capital charge for loans to SMEs is lower than that for general corporate borrowers for any given probability of default. Moreover, during the negotiations on Basel II, it was agreed that for banks that treat their SME exposures as a homogenous portfolio (in the same way as they treat their retail portfolio) and where the exposures are small (less than 1 million euros), the banks are permitted to apply the risk-weight formula for retail exposures applied in calculating the capital charge. The consequence for the total capital charge can be seen in the following chart (Figure C.1).

The retail capital charge curve is considerably flatter than for the general corporate curve, as well as being lower. This flattening of the retail curve (and hence the capital charge on loans to very small firms) was achieved through an assumption on the correlation in the defaults in a portfolio. The capital charge increases with the degree of correlation in defaults. Thus, to achieve a flattening of the capital charge curve, the Basel Committee agreed that the assumed retail correlation was to be lower and declining in the probability of default. In particular, the assumed relationships give rise to the following plots (Figure C.2) for the relationship between probability of default (PD) and the correlation of defaults ( $\rho$ ).

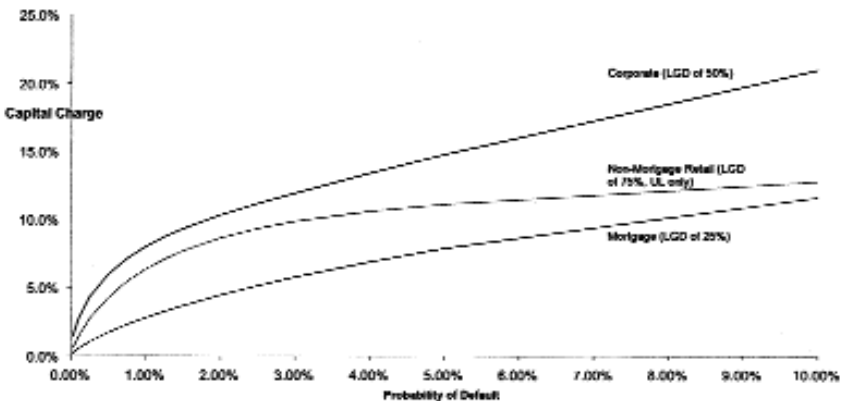


Figure C.1. Capital charges under current proposals

Two points are worth noting: (1) As default probability rises, the correlation falls; and (2) for any given probability of default, the correlation is smaller for very small firms.

These assumptions on default correlations are not obvious propositions. Nor has the Basel Committee given clear explanations of these assumptions. Rather, these assumptions are better seen as classic cases of reverse engineering. If the model does not deliver the result you want, then manipulate the model to achieve the desired result.

During the early consultation stages of Basel II, there was considerable disquiet among some of the members of the Basel Committee that the new rules would have a negative impact on the credit to small firms and that this credit would be highly procyclical. The assumption on correlations was designed to achieve the desired flattening of the capital charge curve. The fact that the threshold size of the firm was denominated in euros (5 to 50 million euros) gives a clue as to who was pushing for this provision. In Germany, domestic support for Basel II would have been far more difficult to achieve without a recognition of the importance of the continuity of bank credit to small firms.

Many similar issues arise in Korea. The proportion of SME loans in the total corporate exposure to Korean banks is now almost 90 percent, and about 60 percent of SME loans can be treated as “retail exposures” by banks. Thus, the special treatment of SME lending in Basel II gives considerable breathing space to Korean banks and may be of some comfort to Korean regulators in case Basel II is adopted in Korea.

However, in this very interesting and well-executed empirical paper, the authors note that the actual empirical evidence is not kind to the assumptions underlying Basel II’s treatment of SMEs. Through a multifactor Merton model, they show, using Korea data from 1992 to 2003, that the

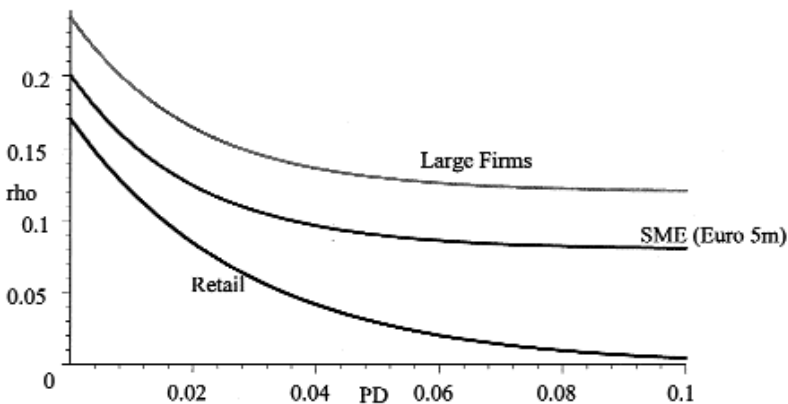


Figure C.1. Relationship between probability of default (PD) and the correlation of defaults (rho)

*correlation of SME exposures is smaller for larger firms*—the opposite of the assumed relationship. (The paper also raises a number of interesting technical questions. The authors use yearly data and define a default as the inability of a firm to cover its interest payments with operating profits three years in a row. One question is how much the results are due to the financial crisis in 1997. Another more general issue is whether correlations are the appropriate measure of interrelationships in default situations rather than, say, extreme tail behavior or copulas.) This is evidence against assumption 2 above. There is also some evidence from French and German data that assumption 1 is not supported by the empirical evidence. Dietsch and Petey (2004), cited by the authors, show that there is no such negative relationship between credit correlation and the probability of default.

Is this a problem for Basel II?

In one respect, the fact that loans to SMEs are treated more favorably than can be justified by the empirical evidence may be desirable. To the extent that Basel II will amplify the economic cycle due to its procyclical nature, any way of dampening the effect of the cycle will be welcome. The argument, roughly, is that if there is a distortion in the framework anyway, then the introduction of another distortion acting in the opposite direction will be beneficial.

However, this argument applies to a given loan portfolio. It is an ex post argument. The problem is that banks' incentives will also be affected by the rules on capital charges, and this will affect the actual composition of the loan portfolio by affecting the incentives that banks face. If the capital requirements are more lenient toward retail and SME loans, the management strategy of the banks will increasingly be focused on these types of loans, and the credit risk of the overall portfolio will be affected accordingly.

The issue is the endogeneity of credit risk arising from the portfolio decisions of banks, which in turn arise from the rules on capital requirements that are in place. The recent problem of household credit card debt in Korea is a good example of how credit risk depends on the past behavior of lenders. The authors of the paper also report that in recent years, the composition of the loan portfolio of Korean banks has shifted markedly to household and SME exposure, away from exposure to large firms. The proportion of credit to large firms has fallen from 15.6 percent at the end of 1997 to just 5.3 percent at year-end 2003. In contrast, household credit has increased from 51 trillion won to 249 trillion won, and SME credit has increased from 92 trillion won to 217 trillion won in the same period. Thus, the adoption of Basel II will further shift the balance toward retail and SME loans.

Very similar issues are raised for G-10 countries, as can be seen from the results of the third quantitative impact study (QIS 3) for Basel II. The QIS 3 study, published in May 2003, covered around 350 banks across forty

countries and estimated the likely effect on required capital for the given portfolios in place at the time. For the G-10 countries, the banks were grouped into large (Group I) and small (Group II) banks. The changes in the required capital reported by QIS 3 are reported below (Table C.1).

The table illustrates a number of important findings. The first is the importance of retail activity. The QIS 3 report states that “banks with a large proportion of retail exposures generally have significantly lower capital requirements in the new approaches relative to current levels, reflecting the generally lower risk in this portfolio.” On average, Group 2 banks have a higher proportion of retail activity. These results also suggest that the current rules under Basel I apply high risk-weight to retail activity. Thus, retail banking is likely to gain most from Basel II since overall risk weightings for retail activity under the IRB approach—which many important banks will adopt initially—will fall by around 50 percent. Retail mortgages, unsecured loans, and credit card business will all see significant reductions in required capital. Under the standardized approach, qualifying retail loans (e.g., unsecured loans and certain SME loans) will see a drop in weightings from 100 percent to 75 percent and a reduction in mortgage weightings from 50 percent to 35 percent. Banks lending mainly

**Table C.1.** Changes in the required capital reported by QIS 3

	Standardized		IRB Foundation		IRB Advanced
	Group 1	Group 2	Group 1	Group 2	Group 1
Portfolio	% change in capital requirement				
Corporate	1	-10	-9	-27	-14
Sovereign	19	1	47	51	28
Bank	43	15	45	-5	16
Retail (total)	-25	-23	-45	-44	-49
Residential mortgages	-27	-20	-53	-44	-58
Non-mortgage retail	-23	-20	-34	-26	-41
SME (total)	-4	-6	-15	-17	-13
SME corporate	1	1	-11	-3	-3
SME retail	-13	-12	-26	-24	-31
Securitized assets	86	51	104	62	130
Overall credit risk	0	-11	-7	-26	-13
Overall change	11	3	3	-19	-2

Source: QIS 3.

to the small and medium-sized enterprises will similarly benefit from Basel II.

Under Basel II, securitized asset portfolios will carry a higher capital charge and will trigger increased capital requirements for the same pool of assets. Among the G-10 countries, the impact will be felt most in the United States, which has led the way in securitization. The effects in Korea will be even larger. The asset-backed securities market would be dealt a major blow by Basel II with the punitive rates of capital that are applied to asset-backed securities (ABS). For Korea, ABS have played an important role in the restructuring of the banking system since the financial crisis of 1997. The impact on the ABS market will have far-reaching effects for the whole banking sector.

The new operational risk charge also plays an important role in explaining dispersions. The capital requirement for some specialized banks (e.g., banks specializing in asset management) will see substantial increases in capital required. As the new charge for operational risk is mainly revenue based, large banks with significant capital market activity are put at a disadvantage. This is the case under the IRB Foundation Approach. Capital market banks will be further penalized by higher capital due to securitization exposures and the fact that they can only reap modest benefits from relatively limited exposure to retail credits. In general, banks specializing in areas such as asset management and custodial services will be among the main losers of Basel II, and these banks have been especially vocal in their lobbying efforts to remove the operational risk charge or to move it from Pillar 1 to Pillar 2 (to supervisory review), in which case the operational risk charge would be at the discretion of the national regulators.

Banks with large sovereign debt exposures are likely to see large increases in required capital, especially for the riskier emerging market borrowers. We will return to this issue later in connection with the cost of Basel II for emerging market economies.

In general, we may expect some important shifts in the strategies pursued by banks in response to Basel II. First, banks are likely to push more capital into retail activities to take advantage of lower capital requirements. More broadly, Basel II will alter the relationships surrounding commercial lending in fundamental ways. The increased risk sensitivity brought about by Basel II will promote the use of risk-adjusted pricing and will also put pressure on the practice of cross-subsidizing across different debtor classes. Loans to borrowers with a higher credit rating will require less capital, resulting in lower capital costs. This will result in strongly differentiated conditions for corporate clients. Good credit ratings will trigger lower interest rates, while borrowers with lower ratings will have to pay higher interest rates. The strongly differentiated conditions for corporate clients will improve the competitive situation for companies with high

creditworthiness. Companies with lower ratings will increasingly come under pressure to improve their creditworthiness through increased innovation and higher-value products and processes.

In addition, the fact that Basel II will bring regulatory capital more in line with economic capital is likely to affect the strategic decision making at banks relating to which business lines to pursue. One can expect banks to streamline their business line portfolios and focus their activities on where they have a competitive advantage. This is likely to have substantial consequences for the industry and will offer financial institutions opportunities to reposition themselves. Basel II will thus accelerate structural change and the associated process of consolidation and concentration. More merger and acquisition (M&A) activity can be expected. Unsophisticated banks facing a potential increase in their capital charge could be bought by more sophisticated banks. The New Accord will thus provide a significant incentive to domestic consolidation. Enhanced disclosure on risk and capital position through Pillar 3 requirements is another likely driver of M&A activity since it helps potential buyers to screen targets.

The interaction of the capital requirement and the shifts in bank lending incentives are likely to be important. I have already remarked on the strategic incentive for banks both in EMEs and in the advanced countries to shift more resources to the retail lending business of the bank in order to take advantage of the lower capital requirements for retail lending. Such a shift will be more accentuated for those banks that adopted more advanced internal management and control systems such as the risk-adjusted rate of return on capital, which attempts to align the activities of the bank to its most profitable activities given a limited capital base. For an individual bank, such a move would be entirely natural and rational. However, when the behavior of the *whole banking sector* is shifted in this direction, the calibrations of the probability of default and other measures of riskiness may change.

Take the example of mortgage lending. Under Basel II, mortgage retail lending is given preferential treatment, with a risk-weight of 35 percent. This low figure comes from calibrations of the probability of default based on historical evidence of default and loss given default, mainly in the G-10 countries.

However, the low loss rates cannot be seen as a constant of Nature. They may undergo changes when the lending behavior of the banks changes. For an economy that is experiencing a rapid boom in residential property prices, mortgage lending will play a pivotal part in fueling the property boom. The low capital requirement of residential mortgages will attract additional entry by banks eager to take advantage of the low capital requirement. Household indebtedness will rise, backed by claims on residential property. However, as property prices rise and household indebtedness continues to rise, the greater will be the danger that the property



boom turns into a property price bubble. The true riskiness of household lending then will be underestimated when only the historical evidence is taken into account. Thus, just at the point where the risk of housing price collapse is increasing, there will be the greatest incentive for banks to enter the market for domestic mortgages, attracted by the low capital requirement. The costs borne by the household borrowers will be very large when the price bubble bursts, and the impact on macroeconomic conditions will also be very large. The economic stability of the country will be affected by the property boom and bust.

The endogenous nature of risk is important when considering the impact of capital requirements on overall economic stability. By calibrating risks based on past data and encouraging banks to pursue activities that attract a low capital requirement, there is the danger that economic cycles may be amplified. This is a separate argument from the usual one based on the risk sensitivity of risk-weights. Emerging market economies that have financial systems not yet fully mature will be particularly vulnerable to this type of event.

## **Part II-2**

# **Supervisory Issues for Crisis Management**

## 9. Regulation and Policy Response to Systemic Crises

Hyun Song Shin

### Introduction

Although systemic crises are rare events, they have the potential to deal a devastating blow to the financial system and to the wider economy as a whole. For those who have witnessed a systemic crisis at first hand, the symptoms are depressingly familiar: collapsing asset prices, widespread corporate distress, and a severely weakened banking system, leading to sharp contractions in output, employment, and economic activity. The output costs in terms of foregone GDP hardly do justice to the toll in terms of human misery, but they can be massive, with some estimates of the Asian financial crisis reaching 20 percent of annual GDP. Given what is at stake, it is important to understand the nature of systemic crises if policy makers are to tackle the crisis when it happens and to put in place policies to prevent them.

A systemic crisis is more than simply the failure of a large debtor (such as the failure of Daewoo in 2000). A large debtor's failure may inflict credit losses on its creditors, but the "systemic" element in the crisis almost always involves a wave of secondary effects that work through the financial system. The distinguishing feature of system crises is the spillover effects across markets and financial institutions through interlocking balance sheets, collateral constraints, declines in market values of assets, currency mismatches on the balance sheet, and the endogenous amplification of financial distress. The precise channels of propagation of the crisis determine the appropriate policy response *ex post*, and also the appropriate preventative regulatory measures *ex ante*. This paper will explore the various channels and illustrate them with examples from historical crisis episodes—both recent and old. In what follows, I will explore three themes in particular.

1. Credit chains and other forms of interlocking balance sheets
2. Contagion through asset prices
3. The amplification of distress through feedback processes

A brief explanation of each will suffice. Credit chains refer to the interlocking claims and obligations in the balance sheets of financial entities where the assets of one party consist of the claims on others, where these others in turn have claims on yet further parties, and so on. When a default happens in such a setting, the loss to a creditor lowers the value of the claims on this creditor, which may have further repercussions on third

parties. Credit chains may be built from standard interbank loans or other forms of conventional credit, but increasingly with the emergence of credit derivatives and over-the-counter financial contracts, the web of obligations can extend far more pervasively than simply the banking sector and its debtors. I will comment in more detail in a subsequent section on the numerical simulations of systemic failures in the presence of credit chains and other forms of interlocking balance sheets. However, it suffices to say for now that credit chains by themselves are not sufficient to cause widespread systemic failure. The “domino” effect of one failure leading to losses that result in a further round of failures turns out to have little force without other accompanying effects.

A key feature that combines with balance sheet interlinkages to cause damage is the effect of falling asset prices. For a distressed debtor attempting to shore up his balance sheet, raising new capital can be extremely difficult, not least because the potential investors who could provide funds are themselves often the victims of the same economic shock that has hit the distressed debtor. In such a situation, the only way open for the debtor is to dispose of assets. If the asset is marketable, then it will be sold on the open market, depressing its price. When assets are claims on other parties (such as bank loans), these claims are either called in or not rolled over. Credit becomes restricted both through the direct channel of lenders retrenching and through the fall in the price of assets that serve as collateral for the loans. As more assets are sold, the more the prices are pushed lower, triggering collateral constraints for borrowers who were otherwise healthy. The effect of a generalized fall in asset prices will therefore have a feedback effect that will tend to amplify the downturn. I will explore this theme in detail below.

Finally, systemic crises are characterized by feedback effects in which market prices and other features of the economy are strongly affected by the actions of the distressed parties themselves. The uncertainties governing the financial system are generated and amplified within the financial system, rather than being generated purely from outside the system. In other words, the risks are endogenous. I will elaborate on the nature of endogenous risk below.

The policy response to systemic risk has an *ex ante* dimension in the form of prudential regulatory policies that are designed to prevent or mitigate the severity of such crises and an *ex post* dimension in the form of crisis management policies. In terms of prevention, one theme that emerges from the analysis is the importance of liquidity regulation for financial institutions as a complementary policy tool to the more standard capital regulation. To the extent that financial regulation is designed to mitigate the negative externalities across financial institutions in crises, policies that are targeted toward minimizing the spillover effects of financial distress will be effective in curtailing the transmission of shocks through the sys-

tem. For emerging market economies, which are more vulnerable to systemic crises than advanced countries, this role of financial regulation takes on critical significance. Capital regulation attempts to set the “tax” on the financial institutions as a function only of the assets held by that institution. However, just as in the theory of Pigouvian taxation for externalities, the optimal tax for a financial institution is a function of the assets (and liabilities) held by all institutions. Depending on the precise propagation mechanism of the systemic crisis, it is possible that liquidity regulation comes closer to the optimal Pigouvian tax than does capital regulation.

This analysis also has implications for the ex post, crisis management dimension of policy. Policy in the face of a systemic crisis should be aimed at minimizing the corrosive effect of distressed selling and the amplification of distress through the asset price and collateral channels. For instance, sharply raising interest rates in the face of a currency crisis can have the perverse effect of exacerbating the crisis if the currency crisis is accompanied by a banking crisis, as happened in many Asian countries in 1997. Also, the role of the central bank in financial regulation takes on added significance, since the role of crisis manager cannot easily be separated from the monetary policy function and the role of the central bank as the lender of last resort. We will see below through several historical and hypothetical examples that timely crisis management is critical in mitigating the costs of financial crises.

The outline of the paper is as follows. I begin with a brief discussion of the endogenous nature of risk in financial markets and how shocks are amplified by such endogenous responses. The argument is illustrated by reference to several episodes from mature financial markets, although not all of them can be regarded as being instances of “systemic” crises. However, many of the forces at work in such episodes also work on a larger scale during systemic crises. I will discuss how the same ideas of endogeneity of financial risk can be used to think about major financial crises, often involving both banking crises and currency crises at the same time—so-called twin crises. The principles of the mutually reinforcing effect of distressed actions in financial distress and the endogenous response of financial markets to such distress are clearly in evidence during such episodes. The timeless nature of the themes in this paper is illustrated by reference to the financial crisis that swept northern Europe in 1763. Despite the differences in the financial institutions between then and now and the very different forms of economic activity, the main themes of contagion through asset prices and the interlocking of balance sheets are timeless. They were clearly at work in the 1763 crisis.

I conclude with a discussion of the policy response to systemic crises, both the ex ante dimension of prevention by means of prudential regulation and the ex post dimension of crisis management.

## Endogenous Nature of Financial Risk

One of the defining features of systemic risk is that the distress is amplified within the system. Such risks are known as “endogenous risk” (Danielsson and Shin 2003). Endogenous risk refers to the risk from shocks that are generated and amplified *within* the system. It stands in contrast to exogenous risk, which refers to shocks that arrive from *outside* the system. Financial markets are subject to both types of risk. However, the greatest damage is done from risk of the endogenous kind.

Our main concern is with financial markets. However, it is instructive to begin with an example drawn from engineering—that of the wobbly Millennium Bridge over the river Thames in London. This was a classic case where neglect of endogenous risk led to a serious and highly publicized blunder in bridge design and construction.

### Millennium Bridge

On June 10, 2000, Queen Elizabeth opened the Millennium Bridge—the first new Thames crossing for over a hundred years, constructed at a cost of £18 million. The 325-meter-long structure used an innovative “lateral suspension” design, built without the tall supporting columns that are more familiar with other suspension bridges. The vision was of a “blade of light” across the River Thames, connecting St. Paul’s with the new Tate Modern Gallery. Many thousands of people turned up on the opening day—a sunny but slightly windy English summer’s day—and crowded onto the bridge. The structure was designed to cope easily with this kind of weight. However, within moments of the bridge’s opening, it began to wobble violently. The wobble (or “lateral excitation” in the jargon) was so violent that some pedestrians had to cling onto the handrails of the bridge, and others suffered from nausea. News videos of the events that can be obtained from several web sites show some of the drama of the day.<sup>1</sup> The wobble was so bad that the bridge had to be closed down, and it was to remain closed for over eighteen months. What went wrong? How could such a prestigious project suffer from such a highly publicized debacle? The answer is revealing. It goes to the heart of the nature of endogenous risk—and how we should neglect it at our peril.

When engineers used shaking machines to send vibrations through the bridge, they found that horizontal vibrations at 1 hertz (one complete cycle per second) set off the S-shaped wobble seen on the opening day. This was an important clue. Normal walking pace is around two strides per second, which produces a vertical force of around 250 Newtons (55 pounds) at 2 hertz. However, there is also a small sideways force caused by the sway of our body mass as our legs are slightly apart.<sup>2</sup> This force (around 25 Newtons or 5.5 pounds) is directed to the left when we are on our left foot and to the right when we are on our right foot. This force occurs at half the frequency (or at 1 hertz). This was the frequency that

was causing the problems. But should this matter? The sideways movement when we walk need not matter if one person's sway to the left is canceled out by another person's sway to the right. It is only when many people walked in step that the sideways force would be a problem. It is well known that soldiers should break step before they cross a bridge. But for thousands of individuals each walking at random, could this be a problem?

Or to put it another way, what is the probability that a thousand people walking at random will end up walking exactly in step? It is tempting to say "close to zero" or "negligible." After all, if each person's step is an independent event, then the probability of everyone walking in step would be the product of many small numbers, giving us a probability close to zero. Presumably, this is the reason why Arup—the bridge engineers—did not take this into account. However, this is exactly where endogenous risk comes in. What we must take into account is the way that people react to their environment. Pedestrians on the bridge react to how the bridge is moving. When the bridge moves under your feet, it is a natural reaction for people to adjust their stance to regain balance. But here is the catch. When the bridge moves, everyone adjusts his or her stance at the same time. This synchronized movement pushes the bridge that the people are standing on and makes the bridge move even more. This in turn makes the people adjust their stance more drastically, and so on. In other words, the wobble of the bridge feeds on itself. When the bridge wobbles, everyone adjusts their stance, which sets off an even worse wobble, which makes the people adjust even more, and so on. So, the wobble will continue and get stronger even though the initial shock (say, a gust of wind) has long passed. It is an example of a force that is generated and amplified *within* the system. It is an *endogenous* response. It is very different from a shock that comes from a storm or an earthquake, which are *exogenous* to the system.

So, let us reconsider the question. What is the probability that a thousand people walking at random will end up walking exactly in step? Far from the probability being close to zero, the probability is close to one! Sooner or later, a small gust of wind will move the bridge, and when there are enough people on the bridge, they will end up walking in step for sure.<sup>3</sup>

### **Financial Market Risk**

What lessons can we draw from the Millennium Bridge for the practice of financial risk management? Financial markets are the supreme example of an environment in which individuals react to what's happening around them but where individuals' actions drive the realized outcomes themselves. The feedback loop of actions to outcomes back to actions has a fertile environment in which to develop. Endogenous risk appears whenever

there is the conjunction of (1) individuals reacting to their environment and (2) where the individual actions affect their environment.

When asset prices fall and traders get closer to their loss limits, they are forced to sell. But this selling pressure sets off further downward pressure on asset prices, which induces a further round of selling, and so on. Here, the downward spiral in asset prices is endogenous. It is a response that is generated *within* the financial system. Just as a gust of wind can set in motion the wobble in the Millennium Bridge, an outside shock has the potential to send the market into a tailspin if the conditions are right.

Major disruptions to financial markets almost always arise from the whiplash effect of endogenous risk. Let us flesh out the argument by reference to three episodes that must rank as the most dramatic episodes in financial markets in recent memory: the 1987 crash, the LTCM crisis, and the collapse of the dollar/yen in October 1998.

### **Stock Market Crash of 1987**

The Brady Commission's report (1988) following the collapse of the U.S. stock market in October 1987 attributed the magnitude and swiftness of the price decline to practices such as portfolio insurance and dynamic hedging techniques. Such trading techniques have the property that they dictate selling an asset when its price falls and buying it when the price rises. In other words, it dictates a "sell cheap, buy dear" strategy. Appendix A outlines the reasons why portfolio insurance dictates a "sell cheap, buy dear strategy." Best estimates then suggested that around \$100 billion in funds were following formal portfolio insurance programs, representing around 3 percent of the precrash market value. However, this is almost certainly an underestimate of total selling pressure arising from informal hedging techniques such as stop-loss orders (see the survey evidence presented in Shiller 1987).

When the trader is small relative to the market as a whole, or when the active traders in the market hold diverse positions, one would expect little or no feedback of the traders' decisions on the market dynamics itself. However, when a large segment of the market is engaged in such trading strategies, the market dynamics may be affected by the trading strategy itself and hence lead to potentially destabilizing price paths. The stock market crash of 1987 is a classic example of endogenous risk and the potentially destabilizing feedback effect on market dynamics of concerted selling pressure arising from mechanical trading rules.

Whereas some portfolio insurers rebalanced several times during the day, many others followed the strategy of rebalancing their portfolios once a day—at the opening, based on the prior day's close. The sparse trading ensured that transaction costs would be low, but this was achieved at the cost of the accuracy of the approximation, especially if the price moved in one direction only over several days. More seriously, the implicit selling



pressure arising from the mechanical trading rules of the traders had the potential of influencing the price of the underlying asset itself, thereby introducing further rounds of selling. During the days leading up to the crash of October 19, the stock market had experienced sharp falls. In the period from Wednesday October 14 to Friday October 16, the market declined around 10 percent. The sales dictated by dynamic hedging models amounted to around \$12 billion (either in cash or futures), but the actual sales had only been around \$4 billion. This meant that by the time of the opening on Monday morning (October 19), there was a substantial amount of pent-up selling pressure. The imbalance between purchases and sales meant that much of the underlying market for stocks did not function. Instead, traders attempted to use the index futures market to hedge their exposures. The S&P Index futures sold at large discounts to the cash market on Monday the 19th and Tuesday the 20th for this reason.

The important lesson to emerge from the 1987 stock market crash is that the dynamic replication of put options by portfolio rebalancing may not be possible in times of market distress. When a large segment of the market attempts to follow identical trading strategies, the liquidity of the market is impaired to such an extent that the market ceases to function in the way necessary for dynamic trading strategy. In situations such as this, the uncertainty governing stock returns is better described as being *endogenous* rather than *exogenous*. The returns are generated partly by the increased selling pressure from the traders.

### **LTCM Crisis of 1998**

The summer of 1998 was possibly the most turbulent episode in mature financial markets of the United States and Europe. The events are well summarized in two official reports of the events by the BIS and the IMF.<sup>4</sup> The origins and the personalities behind Long-Term Capital Management (LTCM) have been well aired through books such as that by Lowenstein (2000). The mainstay of LTCM's trading strategy was convergence or relative value trades in which a long position in one asset would be hedged by having a matching short position in another asset whose returns were highly correlated with the first. The motivation was to reap the rewards of higher returns of the long position while hedging away the risks by means of the matching short position. Usually, the long position would be in a relatively illiquid or riskier asset whose expected returns were higher than the hedging asset. For instance, a trader would hold a long position in off-the-run treasuries that traded at a higher yield but then hedge the interest rate risk by holding a short position in on-the-run treasuries. Other examples include mortgage-backed securities, swaps, and corporate bonds, all hedged with short positions in on-the-run treasuries. Another favorite trade of LTCM was the European convergence trade of Italian government bonds against German Bunds as the launch date of the euro approached.

For several years, the convergence trades of LTCM produced rich rewards and spawned many copycat funds. More importantly, LTCM's very success bred many imitators in the proprietary trading desks of the major investment banks. As more and more players with similar trading strategies crowded into the market, the spreads narrowed on the favored convergence trades, eroding the profit margin for all the players. The relative tranquility of the markets also lulled the players into a false sense of security and spurred them on to increase their leverage, which reduced the spreads further. By the spring of 1998, the convergence funds were having to venture into new and uncharted markets in order to find profitable trades. The scene was set for a reversal of some kind.

The exact date of the reversal is difficult to pinpoint, but the disbanding of the Salomon Brothers bond arbitrage desk on July 6 was a milestone. As the convergence trades were unwound, the long positions were sold and the short positions were bought back. This entailed adverse price shocks for all other traders that held similar positions. For some traders whose leverage was high relative to capital, this would entail losses on their positions sufficient to trigger margin calls on their losing positions. They would unwind their trades, which tended to reinforce the price moves. Given the huge levels of leverage and the widespread nature of the trades, a vicious feedback loop was set in motion in which adverse price moves led to liquidations, which further fed the adverse price moves. Schematically, we would have the following feedback loop where market distress would feed on itself:



This is a classic example of endogenous risk. The unprecedented price movements were not simply a freak of nature, much like a “perfect storm” that would hit only once in the lifetime of the universe. This would be making the same mistake as the designer of the Millennium Bridge, who asks what is the probability of a thousand people walking at random all ending up walking in perfect step. The unprecedented price moves were not simply the result of extremely bad luck. In fact, just like the Millennium Bridge, the probability of breakdown was clearly very far from zero. Once the system began to go into reverse, the internal dynamics of the feedback loop would take hold with a vengeance and send it into a tail-spin. Again, it is the *endogenous* risk that is doing all the harm.

### Dollar/Yen in October 1998

The same perspective is useful in understanding the behavior of the dollar against the yen over two memorable days—October 7–8, 1998—when the dollar fell from 131 yen to 112 yen by lunchtime in London on Thursday

the 8th, bouncing back sharply to end New York trading at 119 yen. October 7 and 8, 1998, were perhaps two of the most turbulent days of trading in financial markets in recent memory, which also saw sharp falls in longer-dated government bonds and the virtual seizing up of markets for corporate debt and for less liquid government debt instruments.

The fall in the dollar was especially dramatic given its strength throughout the spring and summer of 1998, reaching its high of 147.26 yen on August 11. Many commentators were predicting that the dollar/yen would reach 150 or perhaps 200 by the end of the year, especially in the light of the apparent failure of the joint intervention by the United States and Japan on June 17 to support the yen more than temporarily. The conventional wisdom among academics, commentators, and traders alike was that the yen was bound to fall, and that it was a matter of the speed and the magnitude of its fall rather than the direction. Indeed, by the summer of 1998, this conventional wisdom had almost acquired the status of an immutable truth. Although such arrogance seems misplaced with the benefit of hindsight, it is easy to see how such a confident view of the world arose. Since the spring of 1995, the dollar had continued to appreciate against the yen (with a brief respite in mid-1997), and the contrasting macroeconomic fortunes of the United States and Japan, with strong growth in the former and weakness in the latter, seemed to presage more of the same in the months ahead.

The combination of an appreciating dollar and the large interest rate differential between Japan and the United States gave rise to singularly profitable trading opportunities for borrowing yen, buying dollar assets, and gaining both on the appreciation of the dollar and the interest rate differential. This “yen-carry” trade was widespread among hedge funds, the proprietary trading desks of investment banks, and even some corporations. Funds were raised in the interbank market through term repo agreements or by issuing money market paper. Then these funds would be swapped for foreign currency or exchanged in the spot market to fund purchases of higher-yielding assets, including U.S. corporate bonds, mortgage-backed securities, and also even riskier instruments such as Russian GKO. Japanese banks also resorted to the yen-carry trade by accumulating foreign assets. In the first three quarters of 1998, the net holdings of assets denominated in foreign currencies increased by about \$44 billion, while the holdings of yen-denominated assets abroad declined by \$103 billion (IMF 1998, p.127). Thus, the conventional wisdom concerning the relentless rise in the dollar/yen was also apparently shared by the Japanese institutions.

The initial weakening of the dollar was relatively orderly, falling by less than 10 percent against both the yen and the deutschemark between mid-August and early October. However, in the week beginning October 5, the decline of the dollar against the yen accelerated sharply, closing

down roughly 15 percent over the week. Significantly, the fall in the dollar against the deutschemark was much less pronounced, falling less than 2 percent during the week. It was also noteworthy how this fall in the dollar/yen coincided with an unprecedented steepening of the yield curve for mature markets outside Japan, as bond yields bounced back from their historical lows. During the same week, the yield gap between three-month rates and ten-year rates widened by 85 basis points in the United States, 60 basis points in the UK, and 50 basis points in Germany. The coincidence of (1) the rapid fall in the dollar/yen, (2) less-precipitous fall in dollar/deutschmark, and (3) rapid steepening of the yield curve in markets outside Japan was consistent with the rapid unwinding (or attempted unwinding) of the yen-carry trades in place at the time.

One of the implications of a highly leveraged market going into reversal is that a *moderate* fall in asset value is highly unlikely. Either the asset does not fall in value at all, or the value falls by a large amount. The logic of the mutually reinforcing effects of selling into a falling market dictates this conclusion. The fall in the dollar/yen is also likely to have been exaggerated by stop-loss orders and by the cancellation of barrier options and the unwinding of associated hedging positions by dealers. One estimate of the volume of outstanding yen foreign currency contracts at the end of June was in excess of \$3.3 trillion (Bank of Japan 1998). Just as in the stock market crash of 1987, the effect of such trading techniques is to exaggerate price movements by selling into a falling market. The unwinding of yen-carry trades proceeded at such a pace that press reports referred to market rumors of the imminent collapse of one or more hedge funds. The Bank of Japan reported large buying of yen by at least one large hedge fund (*Financial Times*, October 9, p.19).

The poignant irony could not have been lost on observers of the Asian financial crisis. Just a year earlier, the hedge funds and assorted proprietary trading desks of investment banks had profited handsomely from the stampede by Asian borrowers with unhedged dollar liabilities to cover their positions in a desperate attempt to keep afloat. In October 1998, these same "sharks" had become their own bait. It was now they who were scrambling to cover their positions. The logic of mutually reinforcing sales meant that the harder they tried to swim away, the more they provoked the feeding frenzy. The sense of fear was palpable during the turbulent trading of October 8. With sentiment already fragile after the forced rescue of LTCM, rumors of the imminent collapse of a major hedge fund further reinforced the disengagement from risk. Yet again, it was endogenous risk that drove the most dramatic market movements.

## **Emerging Market Currency Crises**

Many instances of financial crises through history have exhibited the characteristics of a “twin crisis,” in which an attack on the currency coincides with a financial crisis in the banking system. The Asian financial crisis of 1997 is perhaps the most vivid illustration of such crises, but there have been many similar episodes throughout history, across a wide geographical range, such as the financial crisis in Germany in 1931, the Mexican crisis of 1994–95, and the Turkish crisis of 2000. In all these instances, the vulnerability of the financial system arose from two features: the currency mismatch on the balance sheets of the domestic financial institutions and a managed or fixed exchange rate. Domestic financial institutions would borrow in foreign currency with a lower interest rate and lend out in the domestic currency at a higher interest rate. With a fixed exchange rate, such a transaction would be profitable for the domestic financial institution but make it vulnerable to a devaluation of the domestic currency.

A country may have a variety of economic and political motives for pursuing a policy of pegged or fixed exchange rate. However, defending a currency peg in adverse circumstances entails large costs. The costs bear many depressingly familiar symptoms: high interest rates, collapsing asset values, and rising bankruptcies, resulting in distressed liquidations and a severe downturn in economic activity. Whatever the perceived benefits of maintaining a currency peg and whatever their official pronouncements, all monetary authorities have a pain threshold at which the cost of defending the peg outweighs the benefits of doing so.

Facing the monetary authority is an array of diverse private sector actors, both domestic and foreign, whose interests are affected by the actions of the other members of this group and by the actions of the monetary authority. The main actors are domestic corporations, domestic banks and their depositors, foreign creditor banks, and outright speculators—whether in the form of hedge funds or the proprietary trading desks of the international financial houses. Two features stand out that deserve emphasis:

1. Each actor faces a choice between actions that exacerbate the pain of maintaining the peg and actions that are more benign.
2. The more prevalent are the actions that increase the pain of holding the peg, the greater is the incentive for an individual actor to adopt the action that increases the pain. In other words, the actions that tend to undermine the currency peg and the domestic banking system are mutually reinforcing.

For domestic corporations with unhedged foreign currency liabilities, they can either attempt to hedge their positions or not. The action to hedge their exposure—of selling the domestic currency (say, baht) to buy dollars in forward contracts, for example—is identical in its mechanics (if not in

its intention) to the action of a hedge fund that takes a net short position in baht. For domestic banks and finance houses that have facilitated such dollar loans to local firms, they can either attempt to hedge their dollar exposure on their balance sheets or not. Again, the former action is identical in its consequence to a hedge fund short-selling baht. As a greater proportion of these actors adopt the action of selling the domestic currency, the greater is the pain to the monetary authorities, and hence the greater is the likelihood of abandonment of the peg. This increases the attractiveness of selling baht. In this sense, the actions that undermine the currency peg are mutually reinforcing. They are “strategic complements,” in the sense used in game theory.

Indeed, the strategic effects run deeper. As domestic firms with dollar liabilities experience difficulties in servicing their debt, the banks that have facilitated such dollar loans attempt to cover their foreign currency losses and shore up their balance sheets by a contraction of credit. This is accompanied by distressed liquidations and a further increase in corporate distress. For foreign creditor banks with short-term exposure, this is normally a cue to cut off credit lines or to refuse to roll over short-term debt. Even for firms with no foreign currency exposure, the general contraction of credit increases corporate distress. Such deterioration in the domestic economic environment exacerbates the pain of maintaining the peg, thereby serving to reinforce the actions that tend to undermine it. To make matters worse still, the belated hedging activity by banks is usually accompanied by a run on their deposits, as depositors scramble to withdraw their money.

The following table contains a taxonomy of the various actors and their actions that undermine the peg. The feature to be emphasized is the increased pain of maintaining the peg in the face of widespread adoption of such actions and hence the *mutually reinforcing* nature of the action that undermines the peg. The greater the prevalence of such actions, the more attractive such actions become to the individual actor.

Actor	Action(s) undermining peg
Speculators	Short-sell baht
Domestic firms	Sell baht for hedging purposes
Domestic banks	{ Sell baht for hedging purposes { Reduce credit to domestic firms
Foreign banks	Refuse to roll over debt
Depositors	Withdraw deposits

To be sure, the actual *motives* behind these actions are as diverse as the actors themselves. A currency speculator rubbing his hands and looking on in glee as his target country descends into economic chaos has very dif-

ferent motives from a desperate owner of a firm in that country trying frantically to salvage what he can—or a depositor queuing to salvage her meager life savings. However, whatever the motives underlying these actions, they are similar in their consequences. They all lead to greater pain in holding to the peg and hence hasten its demise.

### 1763 Crisis

The timeless nature of the forces underlying financial crises can be illustrated by the crisis in northern Europe in 1763. Although financial institutions looked very different in 1763, the eighteenth-century crisis exhibited many features that would be familiar to an observer today. In particular, the two features identified in the introduction—interlocking of balance sheets and the contagion through asset prices—were clearly evident in 1763. Schabel and Shin (2002) have studied the mechanisms and empirical evidence surrounding the 1763 crisis, and the reader is referred to this paper for a more complete account of the crisis.

The eighteenth century marked the slow but steady decline of the Netherlands as Europe's dominant trading nation. Nevertheless, Amsterdam remained the major financial center of northern Europe, followed by London and Hamburg. Following the example of towns such as Venice, Seville, and Antwerp, Amsterdam had developed financial institutions that were crucial to the city's development as a financial center. The most important of these was the Exchange Bank of Amsterdam, which was a publicly guaranteed deposit and giro bank (i.e., a payments bank). Adam Smith's *Wealth of Nations* has a celebrated description of the Bank of Amsterdam, which remains a classic exposition of the functioning of a giro bank in the eighteenth century. Accounts were kept in a notional currency, called bank money, the largest part of which was backed with the holding of gold or silver. By law, bills of exchange had to be settled in bank money by a transfer from one account to another. Due to the impeccable reputation of Amsterdam bank money, it soon emerged as the key currency in international finance.

Berlin was still a provincial backwater in the eighteenth century. Its second-rung status as a financial center was also reflected in prevailing interest rates, which were much higher than in Amsterdam and Hamburg. A network of wealthy merchant bankers in Amsterdam and Hamburg maintained correspondent relationships to other financial and trade centers. One important function of these bankers was the intermediation between these different centers. A need for such intermediation arose from the fact that loans were always based on personal relationships and there were few bankers with sufficient contacts and international reputation. The fact that a large part of Prussian trade ran through Hamburg also meant that commodities and other assets of the Berlin merchant passing

through Hamburg could be pledged as collateral. Similarly, trade between Hamburg and Amsterdam had traditionally been strong. Hamburg bankers were therefore ideally placed to act as intermediaries between Amsterdam and Berlin.

The Seven Years War and the emergence of Prussia as a regional power was accompanied by a shift in the center of gravity in the growth in trade and manufacturing activity away from Amsterdam and Hamburg toward the interior. An important impetus for financial innovation was the challenge of finding ways to channel funds from established centers such as Amsterdam to the capital-hungry regions further east—especially Prussia. For the cautious Amsterdam investor, lending money to an emerging market borrower in return for a promise of uncertain quality would be a risky undertaking, even when the Berlin merchant was commonly recognized to be sound. This is a dilemma familiar to investors in emerging markets in the twenty-first century. A large part of the solution came from the emergence of bills of exchange in the new role of acceptance loans.

As their name implies, bills of exchange first emerged as instruments to facilitate trade in goods. However, by the eighteenth century, they had evolved into a sophisticated instrument of credit—the “acceptance loan”—that allowed capital to be raised on the established financial centers of Amsterdam and Hamburg to finance trade and manufacturing in the newly emerging markets further east, such as Prussia.

Legally, a bill of exchange is an “order to pay” (like a modern check) rather than a “promise to pay” (like a modern corporate bond). Thus, in contrast to the modern creditor-debtor relationship, which involves a bilateral contract, there are typically at least four interested parties in a loan contract involving a bill of exchange: the drawer of the bill, the drawee of the bill, the beneficiary of the bill, and the holder of the bill.

Under the terms of a bill, the drawer requires the drawee to pay the beneficiary a sum of money at a given point in time. The bill carries the signatures of both the drawer and the drawee. By signing the bill, the drawee “accepts” the bill, thereby entering into the obligation to the beneficiary. Bills were negotiable instruments, freely transferable from one party to another, and their transfer was governed by rules for transfer and settlement that were rigorously enforced across all the major jurisdictions.

In the context of the events of 1763, the cast of characters in a typical acceptance credit transaction would consist of the following parties: the drawer—a Hamburg merchant banker; the drawee—an Amsterdam merchant banker; the beneficiary/endorser—a Berlin merchant; and the purchaser/holder—an Amsterdam investor. In practice, the bill would in most cases pass through the Hamburg bill market but would eventually end up in Amsterdam where most of the capital was. Bill traders could thus exploit the interest differences that existed between Amsterdam, Hamburg, and Berlin.



The Amsterdam merchant banker would accept the bill on the understanding that the Hamburg banker would redeem the bill before the redemption date. Typically, the Hamburg banker would maintain a balance on his account at the Amsterdam banker, but this promise by the Hamburg merchant banker could also be secured on collateral in the form of trading goods. The Amsterdam merchant bank would receive a commission for its service in accepting the bill. This commission typically was very small (around 0.3 percent), indicating that the incurred risks were judged to be negligible. For his part, the Berlin merchant promised to repay the Hamburg merchant banker before the bill's redemption date so that the money could be passed on to the Amsterdam merchant banker in time. This promise would also typically be secured on collateral, and the Hamburg merchant bank would receive commission from the Berlin merchant for its role in drawing up the bill. In addition, the Berlin merchant would have to pay interest when discounting the bill in the market. Since the bill was secured by the signatures of the Amsterdam and the Hamburg bankers, discount rates would be relatively low compared with the rates that the merchant would have to pay otherwise.

As a result of this sequence of transactions, credit flowed from the investor in Amsterdam to the merchant in Berlin and the intermediaries had balance sheets in which the liabilities were exactly matched by claims on other parties. On the balance sheets of the intermediaries, there was an increase on both the assets and the liabilities side, reflecting the increase in leverage. The Amsterdam merchant banker owed money to the holder of the bill, but this liability was matched by his claim on the Hamburg merchant banker. The Hamburg merchant banker also had an extended balance sheet in which the liability toward the Amsterdam banker was matched by a claim against the ultimate borrower—the Berlin merchant. The intermediaries were remunerated for their increased leverage and credit risk arising from this transaction by the commissions received for drawing up the bill.

All the contracting parties' interests were tied together through rigorously enforced laws on the transferability and negotiability of bills, which meant that contracting parties were better able to commit to repay. This commitment power had the virtuous effect of expanding the universe of possible contracts between interested parties separated by large distances. However, there was also a dark side. The interlocking sets of claims and liabilities bound many market participants together through their balance sheets, even though there were no underlying transactions in terms of trade in goods between them. The combination of highly leveraged balance sheets and interlocking claims and liabilities proved to be vulnerable to the downturn in economic activity that came with the end of the Seven Years War in 1763.

Just as LTCM took center stage in the 1998 crisis, the events of 1763 are inextricably bound up with the exploits of one institution—the banking house of de Neufville Brothers. Like LTCM, de Neufville’s business practices were initially viewed with suspicion, but their apparent triumphs ensured their meteoric rise and produced many imitators.

The analogy runs deeper than simply the role of a prominent market player. Two features stand out. First, the increased size of balance sheets and the attendant increase in leverage was not viewed with alarm in 1763 because of the offsetting nature of the claims and liabilities. In modern parlance, the balance sheets were “perfectly hedged” to the extent that each liability was exactly offset by an equal and opposite claim on another party. This is suggestive of the convergence or arbitrage trades much favored by modern markets.

Second, the contagious effects of the 1763 crisis were exacerbated by the forced sales of assets to meet liabilities. Merchants suffered direct losses when their counterparties went bankrupt, but they were also affected indirectly through the price declines resulting from the fire sales. The actions of distressed parties attempting to reduce the size of their balance sheets had an impact on the value of others’ assets. Weakened balance sheets generated further forced sales, feeding the vicious circle. The liquidity squeeze generated by such forced sales received particular attention in the aftermath of the LTCM crisis.

This second point underscores an important distinction. The modern treatment of bank runs emphasizes the negative externalities on the liabilities side of the balance sheet: It is the run by depositors that precipitates the crisis. In contrast, the crises of 1763 and 1998 are instances of contagion on the asset side of the balance sheet.

There is, however, one important contrast between the events of 1763 and 1998. In 1998, the feared meltdown in the financial system prompted the intervention of the authorities (the New York Fed), which coordinated a buyout of LTCM by its main creditors. In 1763, there was no such intervention by the public authorities in Amsterdam. Although there were attempts to prevent the failure of de Neufville on the part of some of its counterparties, they did not muster enough support. The importance of timely intervention in crisis management (and the coordinating role of a crisis manager) is an important lesson to be drawn from this contrast.

The Seven Years War brought an economic boom not only to the neutral states, such as Holland and Hamburg, but also to states involved, such as Prussia. This boom was accompanied by a strong expansion of credit through bills of exchange. At the same time, inflation became a widespread phenomenon in northern Europe, as many German states and other countries, such as Sweden, financed the war by debasing their currencies. Rapid price changes and uncertainty formed the backdrop to spec-

ulative activities, often carried out on the basis of bills of exchange by people with little capital of their own.

Not everybody profited from the war boom to the same extent: Huge gains could be made in the money trade, which became more and more popular among merchant bankers, or in the trade of war goods and exotic goods from the West Indies. However, these profitable activities also were the most risky ones, as the price volatility of exotic and war goods was particularly high. In addition, trade in exotic goods necessitated expensive investment in shipping (much like the capital-intensive telecommunications equipment industry today), so that traders in these goods were particularly vulnerable to a fall in prices.

The key advantage enjoyed by de Neufville and other Amsterdam banks was their base in a mature financial market with an effective legal infrastructure. Although Hamburg bankers may have been wealthy enough to lend directly to the borrowers in Berlin and elsewhere, the range of services that de Neufville was able to offer—such as access to the Amsterdam bills market—was certainly valuable. Likewise, commentators on modern markets in credit default swaps and other instruments observe how the larger international banks that can offer credit as well as investment banking services (such as Deutsche Bank, Citicorp Salomon Smith Barney, or J. P. Morgan Chase) have a competitive advantage over the specialized investment banks.

The banking house of de Neufville was founded in 1751 by Leendert Pieter de Neufville, who was 21 at the time. It was no more than a medium-sized firm at the beginning of the war in 1756. However, by taking full advantage of the opportunities that the buoyant war economy provided, it was catapulted into being one of the richest and most prestigious banking houses of Amsterdam. De Neufville's balance sheet reveals an extensive range of projects—in manufacturing, goods trading, shipping, insurance, and other financial activities. Thus, as well as being a banker acting as guarantor of loans (i.e., being the drawee of bills), de Neufville was a debt-financed entrepreneur in its own right.

The glamour and fascination associated with such success would be familiar to contemporary observers of the excesses of the late 1990s bull market. Leendert Pieter's opulent lifestyle was the subject of much comment and gossip. The furnishings of his house were said to be of the finest quality, including chests of drawers made from walnut wood, a drawing room of yellow silk, and a fine collection of paintings. He owned several coaches, horses, a yacht, and a manor, but (reputedly) not a single book.

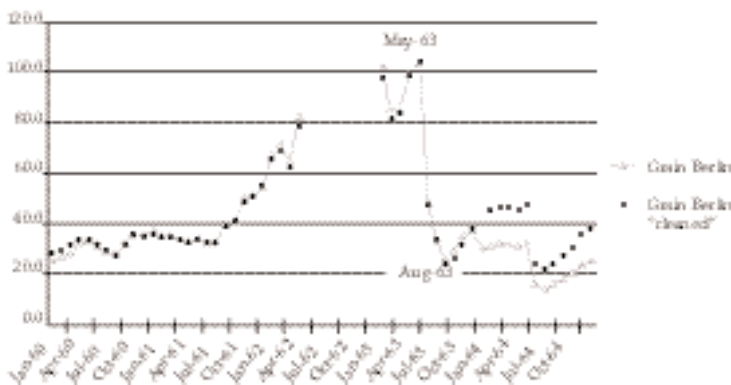
De Neufville's commercial interests were wide, both in the range of goods he traded in and in the wide geographical spread of his business activities. After the conclusion of peace in February 1763 (the Peace of Hubertusburg), de Neufville was party to a major speculative deal with

the Berlin merchant banker, Gotzkowsky, who was the pivotal financier and entrepreneur in the Berlin of the day.

The deal involved buying up a large quantity of grain from the departing Russian army in Poland. The purchase price was 1 million Dutch guilders. It should be borne in mind that any bank with capital of 1 million guilders was considered to be a large bank in Amsterdam at the time. The largest Amsterdam bank, Hope & Co. (which survived the crisis largely unscathed), had a total capital of 4.3 million guilders in 1762.

Grain prices then collapsed in Berlin, falling more than 75 percent between May and August. Of course, the merchants had known that the end of war would bring about a decrease, but a drop of such magnitude could hardly have been expected. The distressed selling of speculative traders almost certainly contributed to this collapse. Although de Neufville's equity stake in the project was small (only 6 percent), the fall-out from the crash in grain prices may have been much larger. The details of the financing of the deal is not well documented; but if, as is likely, de Neufville had financed a substantial part of the deal for his partners by extending acceptance loans himself or by drawing bills on other Amsterdam bankers, the losses resulting from the Berlin grain price collapse would have been substantial.

These events affected market participants in two ways. First, falling prices depressed the values of their asset portfolios. Second, it became harder and harder to obtain new loans needed to roll over existing debt. The tightening of the credit market shows up clearly in the levels of discount rates. Discount rates in Amsterdam in normal years had been in the range of 2 to 3 percent. Now they rose above 4 percent and fluctuated wildly. The Hamburg credit market showed similar signs of distress, with discount rates of up to 12 percent instead of the normal 4 percent. The



**Figure 9.1.** Berlin grain prices, April 1763 = 100.

“Cleaned” prices are adjusted for exchange rate.

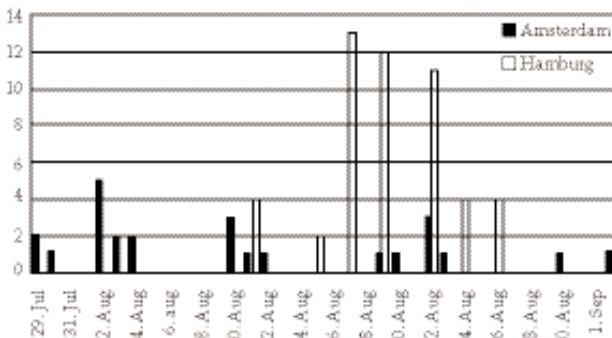
tight credit markets forced merchants and merchant bankers to sell their assets, such as grain and sugar, to obtain the liquidity needed for the repayment of maturing bills (Figure 9.1).

The crisis finally came to a head in Amsterdam on July 29. The first to fail were the Amsterdam houses of Aron Joseph & Co. and, most spectacularly, de Neufville. Some bankers attempted to organize support for de Neufville, but this attempt met with strong opposition from traditional banking houses. The two failures were immediately followed by others in Amsterdam—not only speculators, but also some of the old established banking houses that had been creditors of de Neufville.

Two weeks later, on August 11, there was a first wave of bank failures in Hamburg. This was in spite of the frenetic activity on the part of Hamburg merchant bankers to organize an officially sanctioned bailout of the failed bankers in Amsterdam. These failures in Hamburg were in turn followed by a second wave of failures in Amsterdam, which were attributable to those in Hamburg (Figure 9.2).

The propagation of the crisis followed the links established by the tight web of bills of exchange. When de Neufville and other Amsterdam houses declared themselves bankrupt, the bills drawn on them were protested immediately and presented to the endorsers or drawers of the bills. Due to the laws governing the bills, the Hamburg bankers could not refuse payment, even if they had already sent remittances to the Amsterdam house to settle the obligations from an acceptance loan. Many Hamburg banks were thus forced to close.

The crisis was followed by a period of falling industrial production and a stagnation of credit in northern Europe. The Amsterdam financial market was the first to recover from the crisis. Many banking houses that



**Figure 9.2.** The number of failures in Amsterdam and Hamburg in July and August, 1763.

Source: Jon-Keesing (1939).

had been declared bankrupt reopened shortly after the crisis. Those houses that proved to be insolvent, such as de Neufville, were allowed to fail. In the end, a large part of the debts outstanding could be repaid, notwithstanding the high number of initial failures. In Hamburg, too, many banks that had closed during the crisis reopened for business.

The observation that many banks in Amsterdam and Hamburg reopened after the crisis indicates that the underlying problem of the crisis of the banks was one of illiquidity and not of fundamental insolvency. Two policy conclusions from the events of 1763 have wider significance:

1. There are limits to how much risk can be effectively hedged. Aggregate risk inheres in the financial system even though each individual trader may believe that his own risks have been hedged. At the critical moment, the tensions finally manifest themselves in the form of increased comovement of prices and the increased correlation between credit risk and counterparty risk. The overconfidence in financial engineering was as dangerous in 1763 as it is today.
2. Liquidity risk can have a devastating effect on a financial system populated with traders with highly leveraged and similar balance sheets. As one trader attempts to repair his balance sheet by disposing of assets, the negative price effect of this action impacts on the balance sheets of all other traders in the financial system. This negative feedback has the potential to trigger a self-fulfilling flight to liquidity and the consequent damage to potentially healthy balance sheets. In distressed market conditions, traders that are intrinsically solvent may nevertheless be pushed into failure.

## **A Formal Framework for the Analysis of Systemic Risk**

Having outlined the broad themes, I now outline a formal model that captures the twin features of balance sheet interlinkages and contagion through asset prices. The framework presented below is drawn from Cifuentes et al. (2003).

Changes in asset prices may interact with externally imposed solvency requirements or the internal risk controls of financial institutions to generate amplified endogenous responses that are disproportionately large relative to any initial shock. An initial shock that reduces the market value of a firm's balance sheet will elicit the disposal of assets or of trading positions. If the market's demand is less than perfectly elastic, such disposals will result in a short-run change in market prices. When assets are marked to market at the new prices, the externally imposed solvency constraints or the internally imposed risk controls may dictate further disposals. In turn, such disposals will have a further impact on market prices. In this way, the combination of mark to market accounting and solvency constraints has

the potential to induce an endogenous response that far outweighs the initial shock.

Regulators are familiar with the potentially destabilizing effect of solvency constraints in distressed markets. To take a recent instance, in the days following the September 11 attacks on New York and Washington, financial markets around the world were buffeted by unprecedented turbulence. In response to the short-term disruption, the authorities suspended various solvency tests applied to large financial institutions such as life insurance firms. In the UK, for instance, the usual “resilience test” applied to life insurance companies—in which the firm has to demonstrate solvency in the face of a further 25 percent market decline—was suspended for several weeks. Also, following the decline in European stock markets in the summer of 2002, the Financial Services Authority—the UK regulator—diluted the resilience test so as to preempt the destabilizing forced sales of stocks by the major market players.<sup>5</sup>

There has been a substantial body of work that has examined balance sheet interlinkages as a possible source of contagious failures of financial institutions. Most papers calibrate the models using actual cross-exposures in real banking systems (or an approximation of them) and simulate the effects of a shock to the system resulting from the failure of one or more institutions. Sheldon and Maurer (1998) study the Swiss banking system. Upper and Worms (2002) consider the German system. Furfine (1999) analyzes interlinkages in the U.S. Federal Funds market. Wells (2002) focuses on the UK banks. Elsinger et al. (2002) consider an application to the Austrian banking system and provide a stochastic extension of the framework (using the concept of value at risk). Cifuentes (2002) uses the same framework to analyze the link between banking concentration and systemic risk.

The main focus of these papers is on finding estimates of interbank credit exposures. Once this is determined, systemic robustness is assessed by simulating the effects on the system of the failure of one bank at a time. Importantly, solvency is assessed based on fixed prices that do not change through time. Such an assumption would be appropriate if the assets of the institutions do not undergo any changes in price, or if solvency is assessed based on historical prices. Invariably, a consistent finding of these papers is that systemic contagion is never significant in practice, even in the presence of large shocks. In the absence of price effects, this is hardly surprising, as interbank loans and deposits represent only a limited fraction of banks’ balance sheets.

For commercial banks whose assets consist mainly of corporate or retail loans, the use of backward-looking prices in assessing solvency may be a reasonable approach, although even such banks would also hold some financial assets on their trading book that would be marked to market. For financial firms that hold mainly marketable assets—such as insurance companies, hedge funds, or investment banks—the assumption of

fixed prices would be highly unrealistic. Even for commercial banks, whose assets are currently accounted for on an accruals basis, collateral assets that back loans are marked to market. Hence, the scope of the applicability of the model below would be quite wide.

The effects described here can be seen in the light of the recent theoretical literature on banking and financial crises that has emphasizes the limited capacity of the financial markets to absorb sales of assets (see Allen and Gale 2002; Gorton and Huang 2003, and Schnabel and Shin 2002), where the price repercussions of asset sales have important adverse welfare consequences. Similarly, the inefficient liquidation of long assets in Diamond and Rajan (2000) has an analogous effect. The shortage of aggregate liquidity that such liquidations bring about can generate contagious failures in the banking system.

One important conclusion is that prudential regulation (in the form of minimum capital requirement ratios or other solvency constraints) when combined with mark to market rules can sometimes generate undesirable spillover effects. Marking to market enhances transparency, but it may introduce a potential channel of contagion and may become an important source of systemic risk.<sup>6</sup> Liquidity requirements can mitigate contagion and can play a similar role to capital buffers in curtailing systemic failure.

### Framework

There are  $n$  interlinked financial institutions (for simplicity, we can think of these as being banks). The liability of bank  $i$  to bank  $j$  is denoted by  $L_{ij}$ . The total liability of bank  $i$  is then the sum

$$\bar{x} \equiv \sum_j L_{ij}$$

Denote by  $x_i$  the market value of bank  $i$ 's interbank liabilities. This can be different from the notional value because the debtor may be unable to repay these liabilities in full. Interbank claims are of equal seniority, so that if the market value falls short of the notional liability, then the bank's payments are proportional to the notional liability. Let  $\pi_{ij} = L_{ij} / \bar{x}^i$ . Then, the payment by  $i$  to  $j$  is given by

$$x_i \pi_{ij}$$

while the total payment received by bank  $i$  from all other banks is

$$\sum_j x_j \pi_{ji}$$

Bank  $i$ 's endowment of the illiquid asset is given by  $e_i$ . The price of the illiquid asset is denoted by  $p$ . In addition, bank  $i$  has holdings of the liquid asset given by  $c_i$ . Thus, the *net worth* or *equity value* of bank  $i$  is

$$pe_i + c_i + \sum_j x_j \pi_{ji} - x_i$$

Limited liability of the bank implies that its equity value is nonnegative. Priority of debt over equity implies that equity value is strictly posi-



tive only when  $x_i = \bar{x}_i$  (i.e., bank  $i$ 's payment is equal to its notional obligation). Thus, the vector of payments  $x = (x_1, x_2, \dots, x_n)$  is such that for each  $i$ ,

$$x_i = \min \left\{ \bar{x}_i, w_i(p) + \sum_j x_j \pi_{ji} \right\}$$

where  $w_i(p) = pe_i + c_i$  is the mark to market value of the liquid and illiquid assets of bank  $i$ . More succinctly, we can write (equil1) in vector form as

$$x = \bar{x} \wedge (w(p) + \Pi^T x)$$

where  $w(p) = (w_1(p), \dots, w_n(p))$ ,  $\Pi^T$  is the transpose of the exposure matrix  $\Pi$ , and  $\wedge$  is the pointwise minimum operator. Thus, a clearing vector  $x$  that satisfies (equil2) is a fixed point of the mapping

$$H(x) \equiv \bar{x} \wedge (w(p) + \Pi^T x)$$

$H(\cdot)$  is an increasing function on the lattice  $\mathbb{R}^n$  (with infimum defined by the operator  $\wedge$ ), and where  $H(0) \geq 0$  and  $H(\bar{x}) \leq \bar{x}$ . Hence, by Tarski's fixed point theorem, there is at least one fixed point of  $H(\cdot)$ , and hence at least one clearing vector  $x$ . Eisenberg and Noe (2001) have proved that under mild regularity conditions, there is a unique fixed point of such a function. A sufficient condition for the existence of a unique fixed point is that, first, the system is *connected* in the sense that the banks cannot be partitioned into two or more unconnected subsystems, and second, that there is at least one bank that has positive equity value in the system. By drawing on the results of Eisenberg and Noe, we can proceed as follows. For any fixed value of  $p$ , the net worth of each bank is determined fully. Hence, by appealing to the result of Eisenberg and Noe (2001), we have the following lemma.

**Lemma 1.** *Suppose the banking system is connected and that at price  $p$ , there is at least one bank that has positive equity value. Then, there is a unique clearing vector  $x$  such that*

$$x = \bar{x} \wedge (w(p) + \Pi^T x)$$

Let us write  $x(p)$  to be the unique clearing vector when the price of the illiquid asset is given by  $p$ . Then each payment  $x_{ij}$  is determined by the pro rata rule (prorata). Hence, this lemma allows us to write each  $x_{ij}$  as a function of  $p$ . We will use this feature in what follows.

Assets held by the bank attract a regulatory minimum capital ratio, which stipulates that the ratio of the bank's equity value to the mark to market value of its assets must be above some prespecified ratio  $r^*$ . When a bank finds itself violating this constraint, it must sell some of its assets so as to reduce the size of its balance sheet. Denote by  $t_i$  the units of the liquid asset sold by bank  $i$ , and denote by  $s_i$  the units of the illiquid asset sold by bank  $i$ . The liquid asset has constant price of 1. The illiquid asset has price  $p$ , which is determined in equilibrium.

The capital adequacy constraint puts a lower bound on the capital asset ratio of the bank. The constraint is given by

$$\frac{pe_i + c_i + \sum_j x_j \pi_{ji} - x_i}{p(e_i - s_i) + (c_i - t_i) + \sum_j x_j \pi_{ji}}$$

The numerator is the equity value of the bank where the interbank claims and liabilities are calculated in terms of the expected payments. The denominator is the mark to market value of its assets after the sale of  $s_i$  units of the illiquid asset and sale  $t_i$  of the liquid asset. The underlying assumption is that the assets are sold for cash, and that cash does not attract a capital requirement. Thus, if the bank sells  $s_i$  units of the illiquid asset, then it has  $ps_i$  in cash (assuming for simplicity that it starts with zero cash), and holds  $p(e_i - s_i)$  worth of the illiquid asset. Hence, we have the sum of these (given by  $pe_i$ ) on the numerator, while we have only the mark to market value of the illiquid asset (given by  $p(e_i - s_i)$ ) on the denominator. Similar remarks apply to the liquid asset. Thus, by selling its assets for cash, the bank can reduce the size of its balance sheet and hence reduce the denominator, making the capital asset ratio larger.

We make two assumptions. First, the bank cannot short-sell the assets. Thus,

$$s_i \in [0, e_i] \text{ and } t_i \in [0, c_i]$$

Second, we assume that the bank sells all its liquid assets before it starts selling its illiquid assets. Thus,  $s_i > 0$  only if  $t_i = c_i$ . Any value maximizing bank will follow this rule, and hence this assumption is not a strong one.

An equilibrium is the triple  $(x, s, p)$  consisting of a vector of payments  $x$ , vector of sales of illiquid asset  $s$ , and the price  $p$  of the illiquid asset such that

$$\text{For all banks } i, x_i = \min \left\{ \bar{x}_i, pe_i + c_i + \sum_j x_j \pi_{ji} \right\}$$

For all banks  $i$ ,  $s_i$  is the smallest sale that ensures that the capital adequacy condition is satisfied. If there is no value of  $s_i \in [0, e_i]$  for which the capital adequacy condition is satisfied, then  $s_i = e_i$ .

There is a downward sloping inverse demand function  $d^{-1}(\cdot)$  such that

$$p = d^{-1}(\sum_i s_i).$$

The first clause is reiterating the limited liability of equity holders and the priority and equal seniority of the debt holders. The second clause says that either the bank is liquidated altogether, or its sales of illiquid assets (possibly zero) reduce its assets sufficiently to comply with the capital adequacy ratio. Finally, the third clause states that the price of the illiquid

asset is determined by the intersection of a downward-sloping demand curve and the vertical supply curve given by aggregate sales.

By rearranging the capital adequacy condition (c1) together with the condition that  $s_i$  is positive only if  $t_i = c_i$ , we can write the sale  $s_i$  as a function of  $p$ , where  $s_i = 0$  if the capital adequacy condition can be met by sales of the liquid asset or from no sales of assets, but otherwise is given by

$$s_i = \min \left\{ e_i, \frac{\bar{x}_i - (1-r^*)(\sum_j x_j \pi_{ji} + pe_j) - c_i}{r^*p} \right\}$$

The interbank payments  $x_{ij}$  are all functions of  $p$ . Thus,  $s_i$  itself is a function of  $p$ , and we write  $s_i(p)$  the sales by bank  $i$  are a function of the price  $p$ . Let

$$s(p) = \sum_i s_i(p)$$

be the aggregate sale of the illiquid asset given price  $p$ . Since each  $s_i(\cdot)$  is decreasing in  $p$ , the aggregate sale function  $s(p)$  is decreasing in  $p$ .

The inverse demand curve for the illiquid asset is assumed to be

$$p = e^{-\alpha} (\sum_i s_i)$$

where  $\alpha < 0$  is a positive constant. The maximum price is  $p = 1$ , which occurs when sales are zero. We impose two regularity conditions on the demand and sales functions. First, we require that the banking system does not spiral down into zero net worth when all the illiquid assets are sold. When the entire endowment of illiquid assets in the system is sold, there is at least one bank that has positive equity value.<sup>7</sup> Let  $\underline{p}$  be the price of the illiquid asset when the entire endowment of the illiquid asset is sold. That is,

$$\underline{p} = d^{-1} (\sum_i e_i)$$

Our first regularity condition is

$$s(\underline{p}) < d(\underline{p})$$

Our second regularity condition is at the opposite end of the price spectrum. We require that when the price of the illiquid asset is at its highest, given by  $p = 1$ , no bank is forced to sell any of its illiquid assets. In other words,  $s(1) = 0$ . From (dem), we have  $d(1) = 0$ . Together, we have

$$s(1) = d(1)$$

An equilibrium price of the illiquid asset is a price  $p$  for which

$$s(p) = d(p)$$

From (upper), we have at least one equilibrium price, given by  $p = 1$ . This is the status quo price where the banking system has not suffered any

adverse shock. However, an equilibrium price lower than 1 is possible provided that the  $s(p)$  curve lies above the  $d(p)$  curve for some ranges of price (see Figure 9.1).

The price adjustment process can be depicted as a step adjustment process in the arc below the  $s(p)$  curve, but above the  $d(p)$  curve. The process starts with a downward shock to the price of the illiquid asset. At the lower price  $p^0$ , the forced sales of the banks puts quantity  $s(p_0)$  on the market. However, this pushes the price further down to  $p_1 = d^{-1}(s(p_0))$ . This elicits further sales, implying total supply of  $s(p_1)$ . Given this increased supply, the price falls further to  $p_2 = d^{-1}(s(p_1))$ , and so on. The price falls until we get to the nearest intersection point where the  $d(p)$  curve and  $s(p)$  curve cross.

Equivalently, we may define the function  $\Phi : [p, 1] \rightarrow [p, 1]$  as

$$\Phi(p) = d^{-1}(s(p))$$

and an equilibrium price is a fixed point of the mapping  $\Phi(\cdot)$ . The function  $\Phi(\cdot)$  has the following interpretation. For any given price  $p$ , the value  $\Phi(p)$  is the market-clearing price of the illiquid asset that results when the price of the illiquid asset on the banks' balance sheets is evaluated at price  $p$ . Thus, when  $\Phi(p) < p$ , we have the precondition for a downward spiral in the illiquid asset's price. The price that results from the sales is lower than the price at which the balance sheets are evaluated. We can summarize our results as follows.

*Proposition 2. If for all  $\Phi(p) \geq p$  for all  $p$ , there is a unique equilibrium in which  $p = 1$ . In this case, the value of the banking system declines only by the size of the initial shock.*

*Proposition 3. If  $\Phi(p) < p$  for some values of  $p$ , then there is an equilibrium in which  $p$  is strictly below 1, and in which there are sales of the illiquid asset. In this case, the banking system will reach this equilibrium by the step adjustment process provided that the initial shock is big enough.*

The first proposition is immediate. Thus, when the  $\Phi(p)$  curve lies above the 45-degree line, there is no endogenous fall in the asset value of the banking system. The only effect of the initial shock is to reduce the banking sector's value by the amount of the initial shock. The second proposition follows from the continuity of the  $\Phi(\cdot)$  mapping, which inherits its continuity from the continuity of  $d(p)$  and  $s(p)$ . In this case, there is an amplification effect that arises from the endogenous responses generated by the forced sales (Figure 9.3).

### Simulations

I now illustrate the effects of illiquidity as given in Proposition (3) by means of several examples. The basic structure of the model is the same as that outlined in the previous section. But to make the example more realistic, I include deposits as an additional liability in banks' balance sheets.

Use these to explore the implications on systemic robustness of changes in a wide set of systemic and policy parameters.

To identify the equilibrium of the model, I devise an iterative procedure whose structure is designed to obtain the equilibrium to the adjustment procedure defined in the previous section. The algorithm can be described as follows.

Given the level of the minimum capital ratio  $r^*$ , the algorithm checks that the equity ratio of each bank ( $r_k$ ) satisfies condition (c1). Failure to comply with this requirement triggers a resizing of the bank's balance sheet and possibly the liquidation of the bank.

There are two possible cases:

If  $r_k \geq r^*$ , then the bank satisfies the capital adequacy ratio and no action is required.

If  $r_k < r^*$ , then the bank violates the capital adequacy ratio and needs to liquidate assets.

In the second case, depending on the size of its equity capital, the bank can resize its balance sheet, scaling down the size of its assets to a new level consistent with the actual level of equity capital available. Alternatively, if this is not possible, the bank is liquidated.<sup>8</sup> I assume that liquidation occurs if equity capital is insufficient to support more assets than the outstanding claims in the interbank market. In other words, the threshold level of equity capital for technical solvency is given by

$$r^* \sum_{i=1}^n L_{ij}$$

For a bank that violates the capital adequacy ratio, the resizing routine is activated. This entails a reduction of the size of the bank's balance sheet

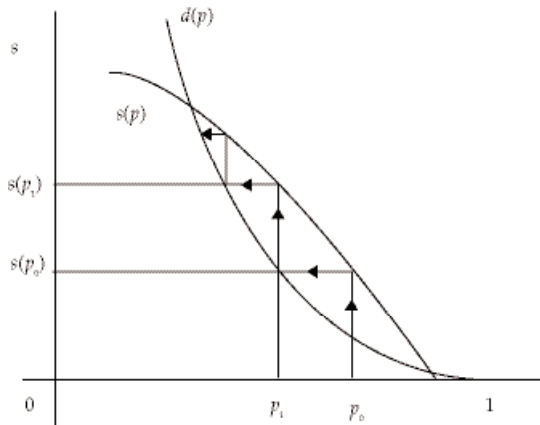


Figure 9.3. Amplification of shock through asset sales

until the bank's assets can be supported by the given equity size. Assets are liquidated according to their degree of liquidity. First, banks liquidate their liquid assets and then they move to the illiquid assets. When the bank becomes insolvent, the liquidation routine is activated. All the bank's (liquid and illiquid) assets are liquidated and used to settle liabilities according to the principles set out in the previous section (priority of debt claims, proportionality, limited liability). In particular, when default occurs, the defaulting bank pays all claimants in proportion to the size of their nominal claims on the bank's assets. This implies that the loss is distributed proportionally among all the bank's creditors. Because of this, interbank assets and liabilities cannot be netted, as netting would effectively give priority to some claimants over others, implying that the loss is not evenly spread among holders of interbank assets.

Different liquidation rules apply to the three categories of bank assets when they have to be used to settle liabilities. Liquid assets are sold for cash at the notional value. Illiquid assets have to be liquidated at market price. The proceeds from the sale can then be used to settle liabilities. Interbank assets are not cashed but are redirected, or redistributed, at face value proportionally among the holders of the bank's liabilities, who essentially take over the credit line given by the defaulting or resizing bank and become the new creditors of the contract. This liquidation rule of interbank assets reflects the fact that interbank loans normally cannot be expected to be recalled early in the event of default of the lender. In other words, default of the lender cannot trigger early repayment of a loan.

This variety of liquidation rules acknowledges the fact that different asset types carry different risks. In particular, liquid assets are always exchanged at face value and bear no risk. Illiquid assets are exposed to market and liquidity risks as their final value is determined endogenously as a market price, which in turn depends on the equilibrium of demand and supply. Interbank assets are exposed to credit (or counterpart) risk, as their value ultimately depends on whether the borrower is able or not to repay the loan in full and on the recovery rate in the event of default.

Clearly, because different asset types imply exposure to a range of different risks, the actual asset composition of a bank's portfolio has a direct bearing on the bank's intrinsic creditworthiness, on its capacity to withstand shocks, and on its susceptibility to contagion. Banks with significant holdings of liquid assets as a proportion of total assets are generally more resilient to shocks and less susceptible to contagion, as they are overall less exposed to fluctuations in the price of the illiquid asset and face lower credit risk. Additionally, if these banks default or have to resize, they create fewer externalities on the rest of the system, as they can settle their liabilities through liquid assets whose prices are fixed. Thus, they would sell smaller amounts of the illiquid asset in the market and would create less systemic contagion through movements of asset prices.

Importantly, when choosing their portfolio allocation, banks do not internalize the positive externalities that holding more liquidity has on the stability of the system. Therefore, the privately determined liquidity will be suboptimal. I do not model explicitly the banks' individual choices of liquidity (and capital). However, because banks do not internalize the externalities of network membership, the introduction of an ex ante portfolio allocation to the problem would not necessarily guarantee that liquidity in equilibrium coincides with the level that minimizes systemic risk. As a consequence, liquidity and capital requirements would need to be externally imposed. Moreover, they should be set in relation to a bank's contribution to systemic risk and not on the basis of the bank's idiosyncratic risk.

One distinguishing feature of the algorithm is that for defaulting and oversized banks, the algorithm keeps track of the quantity of the illiquid asset dropped in the market. In other words, payments in liquidations are kept under separate accounts according to their origin, in order to allow repricing of the illiquid asset when the market price changes. Combining this information with the given demand function of the illiquid asset allows calculating the new equilibrium price of the illiquid asset. Mark to market rules imply that all banks have to reprice their stockholding of the illiquid asset in their balance sheet at the new (lower) given market price, which in turn may mean that banks that were previously safe may now become illiquid or insolvent.

Formally, the algorithm determines in each round the set of banks that are oversized or insolvent and calculates the quantity of the illiquid asset that these nodes need to drop in the market. Given this quantity, it then determines the new price of the illiquid asset using the specified demand function. Then the illiquid asset is repriced by all nodes in the system, according to mark to market requirements. Finally the algorithm checks that all banks are solvent under the new price. If there is at least one insolvent bank, the algorithm is iterated again until an equilibrium is found where all banks satisfy the solvency condition.

For a first set of basic results, I model a highly stylized banking system. I keep a number of background parameters constant and explore the effects on systemic stability of a number of state and policy parameters.

The main background parameters are:

*Initial banks' balance sheet:* I assume that banks are homogenous—that is, they all have the same initial balance sheet, which takes the following form:

Liquid and illiquid assets	70	Equity	7
Interbank assets	30	Deposits	63
		Interbank liabilities	30
Total assets	100	Net worth and liabilities	100

*Initial interbank claims:* The initial overall size of the interbank market is fixed and constant across all simulations; additionally banks have zero net interbank exposures (i.e., gross interbank liabilities and assets match for each bank).

*Regulatory capital requirement:* Banks' equity must be at least 7 percent of total assets; if equity falls below this threshold, then banks would need to scale down their balance sheet and eventually liquidate.

*Initial number of banks:* I set this equal to 10.

*Demand function of the illiquid asset:* This takes an exponential form and is given by equation (dem), and I set values for the parameter  $a$ , as described below.

These assumptions identify a "neutral" banking system, where all agents are alike and where results do not depend on the size of banks' balance sheets. Moreover, results can be interpreted regardless of considerations of market concentration. Clearly, calibrating a realistic financial system with differentially sized firms would be an obvious extension of this research.

I explore how systemic stability is affected by the following parameters:

*Capital buffer:* defined as the margin of a bank's equity above regulatory capital. A high capital buffer allows a bank to withstand larger shocks before it is pushed below the threshold for regulatory solvency and forced to resize or liquidate. Thus a bank with high capital buffer is more resilient to shocks and generates less systemic risk through asset price movements and links in the interbank market.

*Liquidity ratio:* defined as the initial proportion of liquid and illiquid assets in banks' balance sheets. Intuitively, systemic risk is lower in more liquid banking systems as banks can resize their balance sheets without creating large movements in the price of the illiquid asset for any given price elasticity of the demand curve.

*Banking interlinkages:* defines the structure of banks' interconnections through the interbank market and is given by the number and combinations of interbank links for a given size of the interbank market. In particular, given the size of interbank loans and deposits, I fix the number of possible counterparts and then randomly simulate all the possible combinations that can be created for that given number of counterparts.

*Price elasticity:* defined by the parameter  $a$  in equation (dem). A low value of  $a$  implies an elastic demand for the illiquid asset, so that price changes will be smaller for a given amount of the illiquid asset sold in the market. In most simulations I assume a value of  $a$  such that  $p$  falls by 50 percent if all the illiquid assets held by banks are dropped in the market or that there is a floor for  $p$  equal to 0.5.

For convenience, I treat the capital buffer and the liquidity ratio as "policy" parameters. The interlinkages structure, the price elasticity, and



the size of the shock are “state” parameters. Results presented here assume an idiosyncratic shock.

## Results

Results are presented in terms of the final system equilibrium, when nodes do not further adjust their balance sheets and equilibrium prices are used to evaluate assets. However, the transition from the initial state to the final equilibrium contains additional information. I will use this in one specific example.

The shock that I simulate is the failure of one institution, which occurs with a certain initial loss given default (LGD). The initial LGD is the excess of nominal liabilities over the value of the assets of the failed bank. Expressed as a fraction of total initial assets, it indicates the percentage loss that creditors suffer if assets are recovered at their liquidation value. Clearly, in this model, the initial LGD does not necessarily coincide with the final losses suffered by banks. If the price elasticity of the illiquid asset is below infinity, total losses in equilibrium may be higher than the initial simulated shock as falls in the price of the illiquid asset imply destruction of equity value. This is an important distinction from Eisenberg and Noe, where the initial loss is simply reallocated among the nodes, there is no destruction of system value, and the final loss is always equal to the size of the simulated shock.

I present the result in terms of the total number of banks failed as a consequence of the initial shock, using heatmap charts. Thus contagion is measured by the number of banks that fail after the first bank is shocked. The figures presented assume that the size of the shock, the price elasticity, and the size of the capital buffer are fixed. The number of credit counterparts and liquidity varies. For the latter, we vary liquid assets as fraction of total noninterbank assets.

In the first set of simulations, I consider a bank that has to be liquidated because it has exactly zero equity ( $LGD = 0$ ). Therefore any contagion will stem from price effects. Figure 9.4 shows these results. Panel A reports the limiting case of infinite demand elasticity ( $a=0$ ). This is equivalent to the case in Eisenberg and Noe, and can be thought of as a case of historical cost accounting. It shows that contagion never occurs, as the price of the illiquid asset is constantly equal to one. However, when  $p$  reacts ( $a>0$ ), contagion may occur if liquidity is low (Panel B). The liquidation of a failed bank implies the selling of assets in the market, which triggers a fall in the price of the illiquid asset. In turn, this generates two effects. Banks with direct exposures to the failed bank will be unable to recover the full amount of their loans. In addition, all banks will suffer a loss from the fall in the market price of the illiquid asset, if mark-to-market rules are in place. These losses imply that eventually banks may have to adjust their balance sheets in order to comply with capital adequacy requirements.

These additional sales of assets cause further falls in prices, which in turn may feed back on banks' resilience. A vicious circle may be unleashed. Since all banks are identical, results tend to concentrate in the corners: either all banks fail or none of them does. The vicious circle does not necessarily end up in the collapse of the whole system. Under certain circumstances, the algorithm may converge to a solution where banks remain solvent after losing some capital.

The cases where banks remain solvent are those where liquidity is high. This is because banks can adjust their balance sheets by selling liquid assets, which can be sold at the notional value. Therefore, in this case the pressure on banks' balance sheets arising from the falls in the price of the illiquid asset is lower. Importantly, banks' liquidity is lower in the final equilibrium. This case shows that asset prices may be a powerful channel

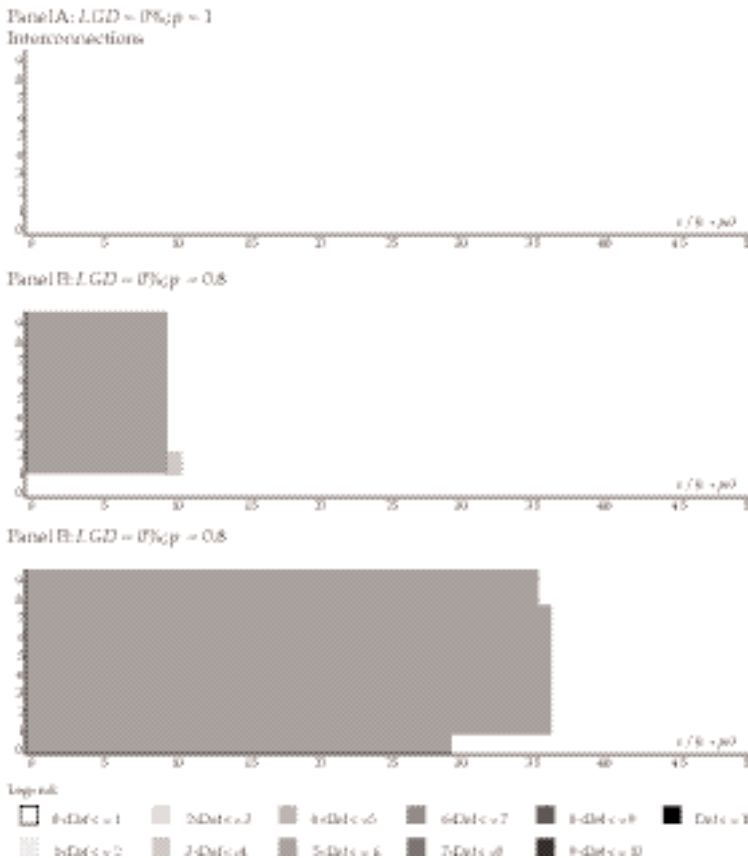


Figure 9.4. LGD = 0

of systemic contagion. It also shows that liquidity holding can help to avoid contagion.

Panel C illustrates the relation between number of interlinkages and systemic resilience. Two basic results can be highlighted. First, the panel includes a case where nodes are not linked via reciprocal loans and deposits (autarky). Nodes in this system may be thought of as insurance companies or mutual funds, which are only exposed to asset price contagion.

The simulations show that an autarkic system can be more resilient than an interlinked system. The explanation is straightforward. In autarky, there is no channel for the transmission of credit losses among financial institutions. The losses are borne entirely by the customers of these financial institutions. Other institutions in the system are affected only via price effects. By contrast, when there are credit linkages among nodes, credit losses are transmitted to other nodes in addition to the aggregate price effect. Therefore, autarky may become more stable than a system of interconnected banks.<sup>9</sup>

A second result is that when there are credit relationships, the system tends to be more resilient to shocks when the number of counterparts is higher. This is shown in Panel C. Intuitively, a given credit loss is spread across a higher number of agents and thus each faces a loss that is proportionally smaller. In this case, lower capital buffers may be enough to withstand the loss. This result is straightforward and is in line with Allen and Gale (2000) in that systems that are more interconnected are also safer. However, when we move to a case of LGD greater than zero, this result can be different.

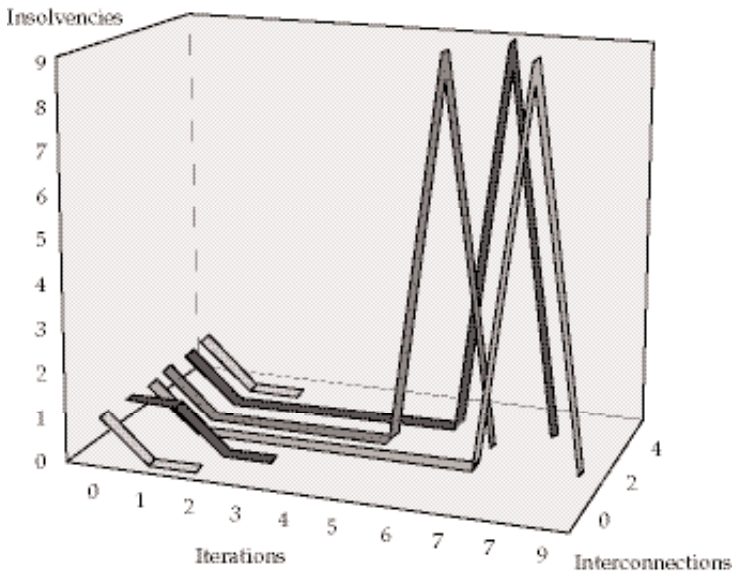
As explained above, more diversified interbank credit structures may lead to safer systems. If a given credit loss is absorbed by more agents, the amount that each of them has to face is smaller and therefore it is more likely that agents can bear the loss without further failures. However, this result may not hold when asset prices are an additional channel of contagion.

This can be illustrated with a simple example. Consider the case of an insolvent bank that has liabilities toward one other bank only. Suppose that losses imply that the creditor bank also fails. The failure of the second bank implies additional sales of illiquid assets, with a consequential price impact. Notice that this impact is limited by the amount of the illiquid asset held by the failed bank. Consider now the case of several creditor banks. Suppose, given that the loss is spread among more creditors, none of them fails in the first round. But in order to adjust their balance sheets, they have to sell illiquid assets. Notice that the amount sold in the market now is not limited by the balance sheet of one bank but by the sum of the balance sheets of all the banks that are exposed to the first default. It is possible therefore that the fall in the price of the illiquid asset may be high-

er in the case of more interconnections. If the price fall is larger, adjustments to comply with capital requirements by other banks will also be higher. This implies that the endogenous process of price reduction that is being unleashed can be of wider magnitude in the case of a higher number of counterparts.

A case where this happens is shown in Figures 9.5 to 9.7. These figures describe the case of a 30 percent LGD,  $a = 0.5$  and initial asset-to-capital ratio of 8 percent. In Figure 9.5 we look at the transition between the initial and final steady state by showing the number of insolvencies at each round by different total number of counterparts. In the case with one credit counterpart, there is only one failure in the first round. The cases with two to four counterparts show the situation just described. In the initial rounds there are no failures, given that initially no bank receives a big shock. But the process generated in the market of the illiquid asset ends up in a higher number of defaults in later rounds.

Figure 9.6 shows the evolution of illiquid assets sold in the market in successive iterations of the simulation. In the case of one credit counterpart, only the assets of the failed bank are sold in the first round. However, as the figure shows, in the cases of two and three credit links the amount sold in the market is larger in the same round, despite the fact that no bank fails. This implies a larger fall in price, as can be seen in Figure 9.7.



**Figure 9.5.** Failures at each iteration

The asset price channel of systemic contagion disappears when the number of interlinkages is high enough to allow banks to stand the losses without selling illiquid assets. Balance-sheet adjustments take place by selling liquid assets only. In the example, this happens when the number of counterparts is five or more.

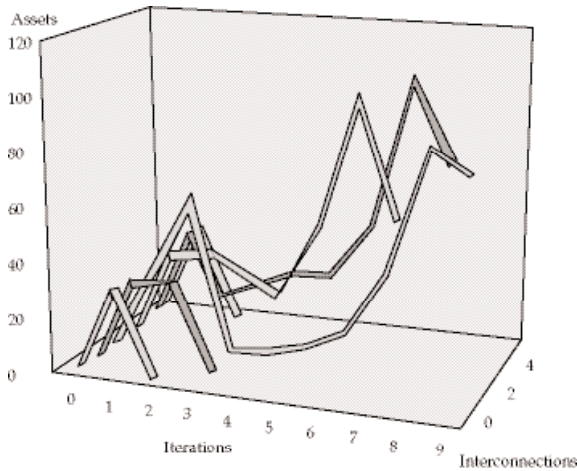


Figure 9.6. Assets sold at each iteration

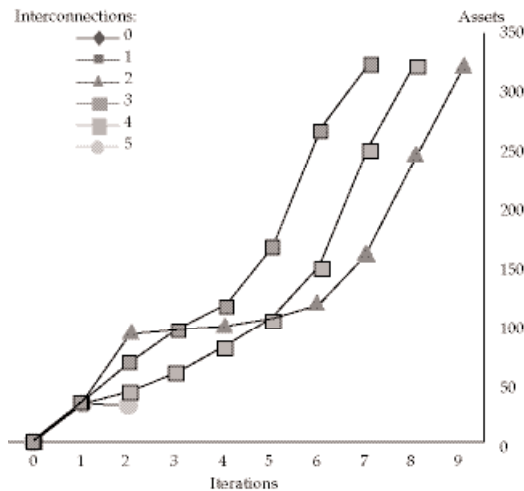


Figure 9.7. Total assets sold

This nonlinear response to a shock with respect to the number of interconnections is one important finding of the simulation exercise. Intuitively, more interconnected systems can lead to more systemic risk also in a world without price contagion, as in Allen and Gale (2000), if shocks are large enough. However, price effects do increase the likelihood of this phenomenon significantly.<sup>10</sup>

One way to curtail systemic contagion is by requiring banks to hold more liquid assets. These assets allow banks to adjust their balance sheets without receiving adverse feedback effects from market prices. Sales of illiquid assets may still occur but at a level that is below the point where the fall in prices generates systemic contagion.

Figure 9.8 shows the effects of liquidity. Moving along the horizontal axis, we increase the fraction of liquid assets as a fraction of the total liquid plus illiquid assets that banks have. The figure shows that there is a threshold liquidity level beyond which no systemic contagion via asset prices occurs.<sup>11</sup> Additionally, for this combination of shock and price elasticity there is a clear nonlinear relationship between the number of interlinkages and the liquidity threshold. The positively sloped part (from 0 to 5 interconnections) comes from the effect explained in the previous section. The negatively sloped part (from 5 to 9 links) shows that for a higher number of credit counterparts, the liquidity threshold is reduced. This implies that liquidity and interconnections can be substitutes for systemic stability for an important range of parameter values.

The substitution between liquidity and interconnections follows straightforwardly from the fact that a larger number of counterparts

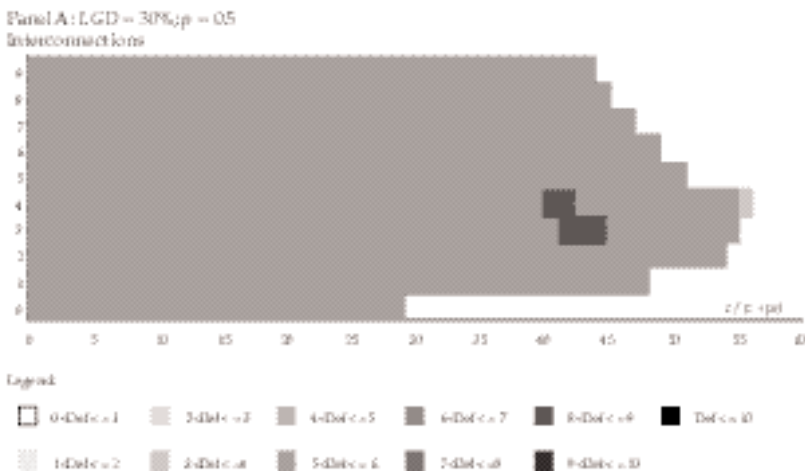


Figure 9.8. Liquidity ratio and number of counterparties

diminishes the size of the shock that each of them faces. The countervailing effect described in the previous section vanishes with a sufficiently large number of counterparts.

Systemic contagion can obviously also be contained by higher capital buffers. If banks have capital in excess of the amounts required by the regulator, they may not need to adjust their balance sheets when they are hit by an adverse shock, both directly through their interbank exposures and indirectly via asset price movements. This implies that when capital is higher than the minimum required by the regulators, the threshold liquidity levels are reduced. Figure 9.9 shows this result.

It is possible, therefore, to derive a relationship between the threshold level of liquid assets for a given level of the capital ratio. The higher the capital ratio, the lower the liquidity required to avoid systemic losses. Figure 9.10 shows this relation for different given levels of connectivity.

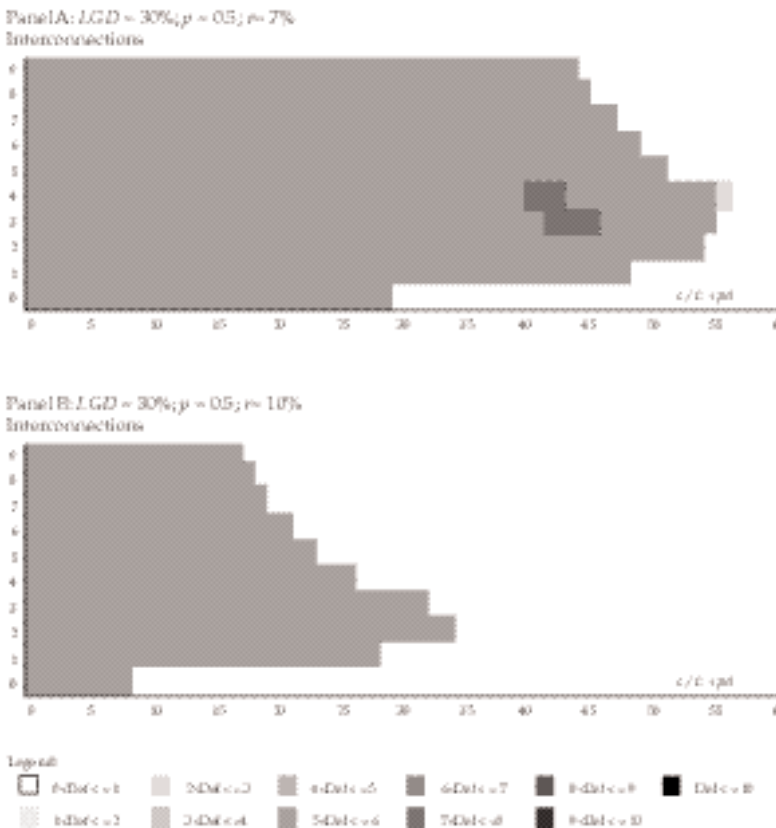


Figure 9.9. Capital buffers

### Regulation and Policy Response

We are now in a position to draw together all the strands in our discussion and comment on the policy significance. There are two dimensions to policies: ex ante policies aimed at preventing crises or mitigating their effects and ex post crisis management policies.

We have seen from the simulations of the formal model that under some circumstances, prudential regulations designed to prevent the failures of individual institutions can have the perverse effect of undermining the stability of the system as a whole. In the exercise in the previous section, we looked at the ex post stability effects of capital requirements in a system of interconnected banks for given portfolio choices when mark to market rules are in place. Because financial institutions do not internalize

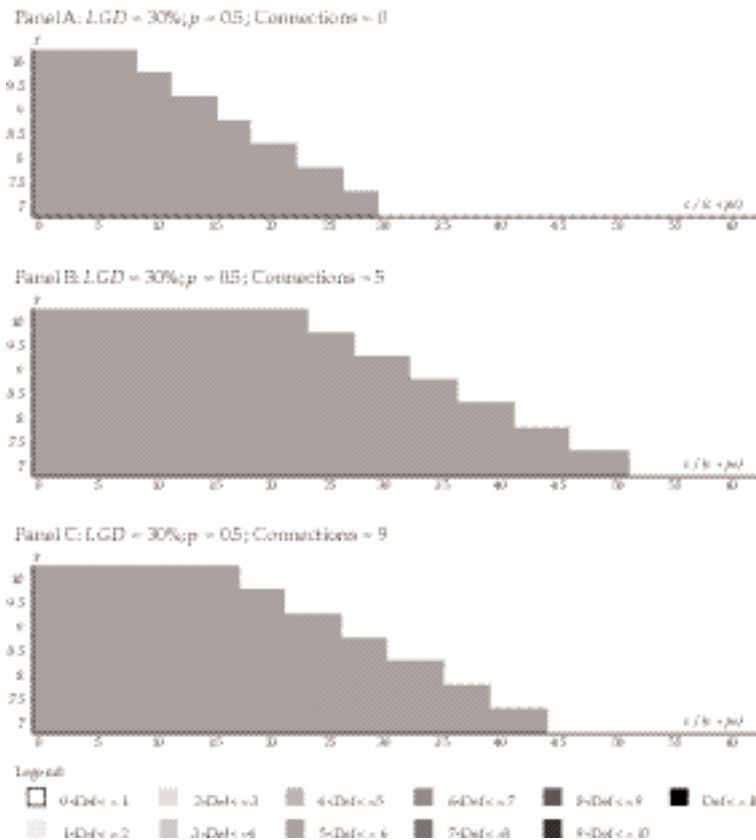


Figure 9.10. Liquidity vs capital buffers



the externalities of network membership, banks' liquidity choices will be suboptimal. As a consequence, liquidity and capital requirements need to be imposed externally and should be set in relation to a bank's contribution to systemic risk, rather than on the basis of the bank's idiosyncratic risk.

One message that emerges from our simulations is that for a given shock, systemic resilience and bank interconnections are nonmonotonically related; that is, under particular circumstances more interconnected systems may be riskier than less connected systems.

Another important message is that liquidity buffers play a role similar to capital buffers. In some circumstances, liquidity requirements may be more effective than capital buffers in forestalling systemic effects. When the residual demand curve is extremely inelastic (such as during periods of major financial distress when risk appetite is very low), even a large capital buffer may be insufficient to prevent contagion, since the price impact of sales into a falling market would be very high. To put it another way, even a large capital cushion may be insufficient if the stuffing in the cushion turns out to be useless. Liquidity requirements can internalize some of the externalities that are generated by the price impact of selling into a falling market.

It is worth noting that the development of risk management systems at the level of the individual financial institution may not solve system risk. The adoption of explicit risk management techniques has been accompanied by a growing acceptance by regulators of self-policing by the financial institutions themselves using their own internal risk management models. This growing acceptance means that it is more important than ever to get things right. What's at issue is whether such bouts of turbulence will subside as more sophisticated versions of current risk management techniques become more widely adopted, or whether the more widespread adoption of such techniques merely serves to increase the fragility of the system. As long as the worldview underlying the risk management models discounts the feedback effect from actions to outcomes, the building blocks underlying such models remain suspect. If the externalities generated by one trader's actions on the payoff distribution of another are not taken into account, then assumptions supporting a model may be undermined.

The term "externality" is used advisedly. The usual context in which this notion appears in economics is in welfare economics—as applied to environmental issues—in which the absence of markets generates inefficient outcomes among market participants. Thus, when I take my car out on the congested roads, I am contributing to the congestion, but this added inconvenience to others is not priced by the market, as there is no market for unencumbered use of the road. There is an analogy with the trading decisions of market participants. When one hedge fund decides to engage

in the yen carry trade, the decision is based on the profitability for that trader alone. However, by short-selling the yen, this trader generates an externality for all other market participants who are engaged in the same trade in that when the yen begins to rise, its rise will be that much more accentuated by the belated attempt to cover the short yen position by this trader. Thus, just as a driver discounts the inconvenience caused by his own driving on the welfare of other drivers, the hedge fund discounts the possible losses inflicted on other market participants by his own trades.

Indeed, the externalities inflicted by traders on other traders will be worse than this. For a driver taking his car out on the road, he at least will anticipate the selfish actions of other drivers—daily experience of congestion will have reinforced this. However, the hedge fund engaging in the yen carry trade will underestimate the risks. The hedge fund has *incorrect* beliefs to the extent that his risk management model is based on a “roulette-wheel” view of the world in which there is no feedback effect from the actions of other traders on the market outcome. During normal, tranquil market conditions, the daily signs from the market do not serve to warn the hedge fund of impending danger. As seen from Figure 1, the price distribution is only distorted for one of the tails of the distribution of the underlying fundamentals. As long as the underlying fundamentals move within a small interval of the median, the outcomes are indistinguishable from those generated by the symmetric normal distribution. It is only when the underlying fundamentals wander off to the left that the hedge fund will realize something is seriously wrong. But by then, it is too late.

Externalities justify a role for the regulator, whether it be in reducing congestion on the roads or in reducing the damaging effects of market turbulence. This role can be justified even though the individual decision makers are perfectly rational and are able to make informed decisions themselves. The incentives for individuals, whether they be individual drivers or traders, do not always take into account the effect of their decisions on others' welfare.

Crisis management poses difficult dilemmas for policy. One of the most difficult policy questions for the monetary authorities facing a twin crisis—the combination of a currency crisis with a banking crisis—is how to conduct monetary policy in the face of the crisis. On the one hand, tightening monetary policy by raising domestic interest rates reduces the value of the dollar liabilities on the banks' balance sheets. Also, higher domestic interest rates (other things being equal) induce the foreign lenders to roll over their loans to the domestic banks. Both of these effects would tend to mitigate the severity of the financial crisis. During the Asian crisis of 1997, the policy prescription of the IMF was to conduct tight monetary policy for these reasons.

However, there are also negative consequences of a tight monetary policy. Higher interest rates lower the value of the assets held by the banks, such as loans to corporate or household borrowers. Frequently, such loans will be collateralized by marketable assets such as real estate, land, or financial assets. As asset prices fall across the board, the credit quality of loans will deteriorate and the market value of the collateral assets will fall, inducing banks to demand more collateral or to curtail existing lending. When viewed from the outside, the net worth or equity value of the whole of the domestic banking sector will decline. Foreign lenders will then become reluctant to roll over their dollar loans to the domestic banking system, weakening the balance sheet positions of the domestic banks.

Thus, the dilemma for the monetary authorities can be stated as follows. In order to reduce the value of dollar liabilities of the banking system, interest rates must be raised. However, raising interest rates also lowers the asset value of the domestic banking system. In such circumstances, the correct monetary policy response must balance the reduction in liabilities against the reduction in asset values in the domestic banking system. The overall effect on the net worth of the domestic banking system can go either way. An increase in interest rates could lower the net worth of the domestic banking system and thus precipitate a rush for the exits by the foreign lenders.

## **Concluding Remarks**

Systemic risk is a complex notion that ties together many interrelated issues. However, the distinguishing feature of system crises is the spillover effects across markets and financial institutions through interlocking balance sheets, collateral constraints, declines in market values of assets, currency mismatches on the balance sheet, and the endogenous amplification of financial distress. We have explored three themes in particular:

1. Credit chains, and other forms of interlocking balance sheets
2. Contagion through asset prices
3. The amplification of distress through feedback processes

In terms of the policy response, we have examined the role of liquidity regulation in mitigating the spillover effects and the role of liquidity provision as a crisis management measure. Clearly, there is a tension (indeed, a conflict) between the effect on ex ante incentives and moral hazard arising from the role of the lender of last resort and the greater disciplining role of a harsh regime where no lender of last resort exists. The appropriate policy response is to strike the right balance between the two.

## Appendix A

In this appendix, I outline the argument for why portfolio insurance dictates a “sell cheap, buy dear strategy.” It is worth recounting how the payoff from holding a put option on an underlying asset can be approximated by the dynamic trading strategy on the underlying asset. In its simplest form, the strategy relies on the *delta* of the put option. The delta of a put option is the rate of change of its price with respect to the change in the underlying fundamental asset. Thus, if  $\Pi$  is the price of the put option and  $p$  is the price of the underlying asset, the delta  $\Delta$  is given by

$$\Delta = \frac{d\Pi}{dp} < 0$$

Black and Scholes (1973) in their celebrated paper on option pricing noted that the portfolio consisting of

$$\begin{cases} \Delta & \text{underlying asset} \\ -1 & \text{put option} \end{cases}$$

is locally risk free with respect to changes in  $p$ . This is because when the price changes slightly, the gain or loss from the holding of the underlying asset (given by  $\Delta$ ) is matched by an exactly offsetting loss or gain from the change in the price of the put option ( $-\Delta$ ). This insight is used in the derivation of the Black-Scholes formula by arguing that the above portfolio must earn the same return as a risk-free asset.

An analogous argument can be used to show that the payoff from the put option can be replicated by holding a suitable portfolio of the underlying asset and cash. Suppose that a trader starts with cash balance of  $\Pi$ , which also happens to be the price of the put option that the trader wishes to replicate. With this wealth, the trader can either purchase the put option itself, or purchase the portfolio

$$\begin{cases} \Delta & \text{underlying asset} \\ -p\Delta + \Pi & \text{cash} \end{cases}$$

Since the trader wishes to replicate a put option,  $\Delta$  is negative. This portfolio is financed by selling short  $|\Delta|$  units of underlying asset at price  $p$  and adding the proceeds to the cash balance.

Now, suppose there are price changes to  $p'$ . The value of the portfolio at the new price is

$$\underbrace{\Delta p'}_{\text{short asset}} + \underbrace{\Pi - p\Delta}_{\text{cash holding}} = \Pi + \Delta(p' - p) = \Pi$$

where  $\Pi'$  is the price of the put option given  $p'$ . Thus, the trader manages to approximate the wealth of a trader who starts out by holding the put option itself. Since the approximation is linear, the accuracy of the approximation is greater the smaller the price change. The trader then forms the new portfolio

$$\simeq \begin{cases} \Delta' & \text{underlying asset} \\ -p'\Delta' + \Pi' & \text{cash} \end{cases}$$

which is affordable given his wealth of  $\Pi'$ . Proceeding in this way, the trader reaches the date of maturity of the option. If option expires in the money, (2) is

$$\begin{cases} -1 & \text{underlying asset} \\ p + (x - p) & \text{cash} \end{cases}$$

while if the option expires out of the money, (2) is

$$\begin{cases} 0 & \text{underlying asset} \\ 0 & \text{cash} \end{cases}$$

Either way, the final value of the trader's portfolio is

$$\max \{x - p, 0\}$$

which is the payoff to buying and holding one put option at the beginning.

The dynamic replication of a put option through dynamic trading is especially useful in contexts where the relevant put option does not have a well-established market. Traded options exist only for well-established markets and only for relatively short maturities. For very long dated options or for specific assets, dynamic replication is the only avenue open to traders if they wish to hedge an implicit short put position. For instance, a fund manager who has sold long-term retail funds that guarantee the capital, the implicit put must be replicated in some way. If an investment bank has sold the fund manger an over-the-counter put, then the burden of replication is placed on the investment bank that has sold the option.

## Notes

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1. See, for example, the RealPlayer videos of the opening day on the BBC news site on [http://news.bbc.co.uk/hi/english/static/in\\_depth/uk/2000/millennium\\_bridge/default.st](http://news.bbc.co.uk/hi/english/static/in_depth/uk/2000/millennium_bridge/default.st).
2. See "Bad Vibrations," *New Scientist* 167(2246). July 8, 2000, p. 14. See also the web page set up by Arup—the construction engineers of

- the bridge—at <http://www.arup.com/millenniumbridge/challenge/oscillation.html>.
3. In the tests that followed the closure of the bridge, Arup found that the critical number of people that started the wobble was 156. Up to that number, there was no significant movement. However, with ten more people, the wobble suddenly appeared. See <http://www.arup.com/millenniumbridge/challenge/results.html>.
  4. The BIS report, “A Review of Financial Market Events in Autumn 1998,” is available at [www.bis.org/publ/cgfs12.htm](http://www.bis.org/publ/cgfs12.htm). See also chapter 3 of the IMF’s *World Economic Outlook and International Capital Markets: Interim Assessment* at [www.imf.org/external/pubs/ft/weo/weo1298/index.htm](http://www.imf.org/external/pubs/ft/weo/weo1298/index.htm).
  5. FSA Guidance Note 4. 2002. “Resilience Test for Insurers.” See also FSA press release no. FSA/PN/071/2002, June 28, 2002, “FSA Introduces New Element to Life Insurers’ Resilience Tests.”
  6. It seems intuitive to conjecture that when players are faced with illiquid markets, they would try to insure against liquidity black holes by holding more liquid assets. The argument in Jackson et al. 2002. should apply also to liquidity—that market discipline would induce banks to hold more liquid assets. That said, each individual bank will have no incentive to internalize any network externalities, and the level of liquidity may not be optimal.
  7. This condition is only needed to show the existence of an interior solution and will be removed when the empirical simulations are run later.
  8. In principle, the bank could also raise equity capital in the markets. However, I rule out this option on the grounds that at times of stress, raising equity may be expensive, may take time, and may even be impossible in some cases if capital markets are shut.
  9. Intuitively, autarky would be safest also in a world à la Allen and Gale. 2000.—that is, without price contagion.
  10. Experiments suggest that to get a nonlinear response in an Allen and Gale world, shocks would have to be so large as to be implausible. a bank default with LGD four times that of assets..
  11. In the case of a single link in the interbank market, there is evidence of contagion to at least one other bank in the system for any level of the liquidity ratio. However, this is due to direct credit exposure and not to asset price contagion.

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# 10. Identification and Management of Systemic Risks: Macro and Micro Evidence in Korea

Dongsoo Kang

## Introduction

The probability of experiencing systemic crises is not negligible throughout history.<sup>1</sup> Due to the inherent nature of the banking business, for example, a liquidity crunch takes place periodically on fundamentally reasonable grounds (Mitchell 1941; Gorton 1988; etc.), or comes randomly from mob psychology or as a self-fulfilling prophecy (Kindleberger 1978; Diamond and Dybvig 1983; Farmer 1993; etc.). Let alone their causes, one of the foremost reasons for paying attention to systemic crises is the astronomical amount of their ensuing costs from both macro and micro perspectives.<sup>2</sup> In order to keep these probable and costly incidents from recurring, policy makers and academics joined in their efforts to devise managing systemic risks, of which examples are central banking, deposit insurance, prudential regulation, and so on. Despite having these instruments at hand, we are not still able to prevent systemic crises.

The causes of systemic crises all point to financial regulations, particularly in emerging market economies (EMEs) such as Korea that have undergone serious damage due to recent currency and/or financial crises. Compared with the intense interest and attention, however, empirical studies on systemic crises and their management to which policy makers can refer are rare in such countries. That is, at least in Korea, key empirical discussions are almost lacking, such as how a systemic crisis is defined quantitatively; how frequent, severe, and durable it is; in what way it undermines the corporate and financial sectors, which in turn aggravates the overall situation further, and so forth. These questions motivate the current study.

The purpose of the paper is to examine both macro and micro phenomena in the context of business fluctuations caused by external shocks. This attempt is based on the business cycle view that a systemic crisis responds to unfolding economic circumstances, so it is a natural outgrowth of the business cycle. Following a series of business cycle and financial economics literature, the current study aims to investigate, identify, and measure the shocks that drive initial business fluctuations in Korea. Then it looks at how finance matters by scrutinizing amplification and propagation processes, focusing on the lender-borrower relationship in the spirit of Bernanke et al. (1999) and Kiyotaki and Moore (1997). Next, it discusses the contagion mechanism via the balance sheet of Korean financial

institutions. To this end, it shows the similarity of asset portfolios of financial institutions and their loan losses.

In short, this study asks how much the theories in academic literature could explain the crises that Korea experienced. Its agenda looks challenging and comprehensive due to the wide coverage of the issues that are not only academic but also practically debatable. Note, however, that it does not provide a well organized, unifying and encompassing methodology. Rather, it is just intended to ignite further empirical analyses based on how an appropriate system of crisis management could be established.

This study provides some prominent observations in relation to policy implications: Systemic crisis managers should pay considerable attention to macro-aggregate shocks. A unit disturbance that hits aggregate quantity and price variables causes very large swings in business cycles in Korea. The measured shock series using macrovariables well explain the crisis events in the past. In addition, both borrowing firms and lending financial institutions in Korea are more vulnerable to common shocks—which seem related to macro-aggregate variables—than idiosyncratic ones. This means that the credit channel through firms' balance sheet (Bernanke and Gertler 1989; Kiyotaki and Moore 1997; etc.) is not effective enough to account for Korea's business fluctuations.

This paper is organized as follows. The second section overviews the academic literature on the theories and empirical analyses relating to systemic risks and their channels to evolve into crises. It puts more emphasis on financial market frictions that generate the relevance of a firm's financial structure, which is the case where the Modigliani-Miller theorem, one of the best-known academic achievements in financial economics, does not hold. The third section attempts to identify the macro-aggregate shocks observed in Korean time series data. The structural vector auto-regression model is used with the long-run restriction studied by Blanchard and Quah (1989). The identified permanent and transitory shock series and its dynamic effects, both qualitative and quantitative, on the real quantity and financial price variables will be examined to witness the importance of macro-aggregate shocks in systemic risks. In section four, the Credit Channel Model suggested by Bernanke et al. (1999) will be investigated in the Korean context. Taking into account both the demand and supply side of credits, it tries to infer policy implications from the empirical analyses on the determinants of corporate borrowing costs to confirm the effectiveness of the balance sheet channel and on the comparison of asset portfolios, including loan loss provisions among financial institutions for the purpose of observing their vulnerability to common shocks. Summarizing the questions posed and answers provided, the concluding remarks note the policy implications of this study.

## Literature Survey on Systemic Crisis

Ever since banks were instituted, bank runs in which depositors attempt to withdraw their funds simultaneously have threatened not only the individual banks but also the entire financial system. Inherently, the runs on fragile banks seem inevitable at a positive probability due to the very nature of the banking business, in which they issue short-term liquid liabilities but invest in long-term illiquid assets. More problematic is a panic, or a systemic crisis, where solvent and sound banks are forced to confront contagious runs triggered by either the depositors' misconceptions or rational expectations on the possibility of their financial distress.

Economic theories that account for the causes of systemic crises have been underpinned from two different standpoints. The first view is that the crises are just random events, unrelated to economic fundamentals. According to this tradition, financial panics may stem from mob psychology in the spirit of Kindleberger (1978) or self-fulfilling prophecies as in Diamond and Dybvig (1983) and Farmer (1993). Theoretically, there may exist multiple equilibria, of which one, a bank run, occurs when every depositor believes that other depositors are unconditionally withdrawing funds and exhausting the bank's available funds. On the other hand, if nobody believes that undue runs are about to occur except for financially necessary withdrawals, no systemic crisis takes place. Between these two kinds of equilibria, this view says that the determinant could be economically irrelevant factors—or *sunspots*—that could affect the belief formation of depositors in a self-fulfilling manner. Then the driving forces for systemic crises will be extraneous shocks to the economy, thus being related to psychology.

The second view is that bank runs and the resulting crises are the natural results of business cycles. As an economy becomes sluggish, the capital adequacy of banks deteriorates due to lower creditworthiness and the occasional defaults of borrowers. Anticipating the financial difficulties of trading banks, the depositors may attempt to withdraw funds prior to others, which will bring about a panic in the financial sector. In contrast to the view of random events, this school of thought advocates that a systemic crisis is an essential part of business cycles that could be accounted for by economic fundamentals and institutions. Also, the driving forces for systemic crises could ultimately be aggregate disturbances, or exogenous shocks, that generate macroeconomic business cycles.

Conducting an empirical study as to which view better explains a systemic crisis, Gorton (1988) finds that banking panics are related to business cycles rather than to extraneous random events. In particular, during the national banking era (from the Civil War in 1865 to the creation of the Federal Reserve System in 1914), the five worst recessions were accompanied

by banking panics. Calomiris and Gorton (1991) also argue that the data do not support the *sunspot* view.

### **Nature of the Crisis: Sunspots or Business Cycles?**

Once systemic crises have some relationship with business cycles, could the phenomena during the panic situations be reconciled with standard macroeconomic theory? The canonical real business cycle model and the textbook Keynesian model echo that conditions in financial and credit markets do not affect the real economy. Thus, the Modigliani-Miller (1958) theorem of the indeterminacy and irrelevance of a firms' financial structure in real economic output is a valid proposition in both mainstream macroeconomic theories without frictions. However, this approach that finance is just a shadow of the real economy seems to have drawbacks, for they do not explain the huge swings in business cycles that sometimes end up with catastrophes, without somehow amplifying and propagating mechanisms for external shocks. The inability of the models to replicate the movements of real aggregate quantity variables during systemic crises begs for theorizing frictions in financial and credit markets so as to enhance the explanatory power of business cycle fluctuations in the abnormal periods.

One of the theories that incorporates financial frictions to account for large business swings is called a credit channel model. Along with the standard theories, this alternative view, which gives a more central role to credit market conditions in the propagation of cyclical fluctuations, has a long-standing tradition.<sup>3</sup> Fisher (1933), for example, cautiously argued that the severity of the Great Depression was attributable in part to the heavy burden of debt and ensuing financial distress associated with deflation in the early 1930s.<sup>4</sup>

Bernanke and Gertler (1989) developed Fisher's idea of credit market frictions into a theoretic arena.<sup>5</sup> In order for frictions in credit markets to embed in the model, they introduced agency costs in the form of the "costly state verification" studied by Townsend (1979). In other words, assuming an asymmetry of information between borrowers and lenders and an existence of monitoring costs to verify the outcome of borrowers' investment projects, the model yields optimal financial arrangements entailing deadweight losses, or agency costs, relative to the first-best perfect-information equilibrium. A potential borrower with a high net worth or collateralized assets faces a small risk of bankruptcy and thus a small premium on external finance,<sup>6</sup> whereas a borrower with fewer resources to invest is in the opposite position. In such an economy, an adverse shock lowering the cash flow and net worth of firms raises external finance premiums, withdrawing ongoing projects or at least reducing an investment in new projects. Declining investment lowers economic activities and cash flow in subsequent periods, amplifying and propagating the effects of the

initial shocks. The key virtue of this model is that information asymmetry among borrowers and lenders make the Modigliani-Miller theorem inapplicable, opening up the possibility of an interaction between real and financial economies.<sup>7</sup>

Kiyotaki and Moore (1997) further developed the credit channel model of Bernanke and Gertler by introducing durable assets that are not only production factors but also serve as collateral for loans. To endogenize the dynamic interactions between asset prices and credit limits, they theoretically created a powerful transmission mechanism by which the effects of shocks persist, amplify, and spread out. Suppose that a firm is credit constrained and borrowed heavily against the value of its landholdings. When an adverse temporary shock on its productivity occurs, this credit-constrained firm is forced to cut back on its investment expenditure. The firm will earn less revenue, its net worth will fall, and it will further reduce investment due to even higher credit constraints. In this case, the knock-on effect of a current temporary shock will persist far in the future. Furthermore, the lower cash flows of property investment in response to the shock will reduce the price of land, which will cause the firm's net worth to drop considerably. As a result, the firm has to make yet a deeper cut in its property investment. This intertemporal multiplier process goes on for a long while.

The innovating component by Kiyotaki and Moore is that persistence and amplification reinforce each other.<sup>8</sup> With the explicit consideration of inelastically supplied assets such as land, they can distinguish a dynamic multiplier from one that is static. The static multiplier performs like the effect argued by Bernanke and Gertler within a period. The productivity shock reduces the net worth of the constrained firms, which forces them to cut back the demand for land directly and indirectly via the reduction in land prices in the period. However, the persistence of the credit shrinkage triggers the dynamic multiplier not only to cause a price decrease in the period the shock occurred but also subsequent drops. Therefore, on top of the curtailment in investment due to the direct net worth reduction vis-à-vis an adverse shock, the cumulative impact on asset prices can be significant.<sup>9</sup>

The theories related to the credit channel model are best summarized in Bernanke et al. (1999), which is specifically known as a financial accelerator model. They developed a full-fledged dynamic general equilibrium model that synthesizes various literature mentioning the importance of credit market frictions.<sup>10</sup> Their framework incorporates endogenous developments in credit markets that propagate and amplify shocks to the macroeconomy through the inverse linkage between external finance premiums and the net worth of potential borrowers.<sup>11</sup> This inverse relationship arises because when borrowers are short of funds to finance projects, lenders ask for enough compensation for taking excessive risks or for high

agency costs. To the extent that the borrowers' net worth is procyclical, the external finance premium will be countercyclical, widening swings in the business cycle.

Empirical research related to the credit channel model and macroeconomic effects of financial regulation have been put forth in a wide range of financial economics and policy literature. Among others, Benito and Whitley (2003) developed empirical models that relate implicit interest rates paid by firms to the measures of their financial health using both aggregate and individual company data in the United Kingdom. They concluded that both aggregate and disaggregate approaches confirm a significant influence on interest rates from changes in the financial health of companies.

### **Supply Side of Credits: Bank Lending Channel**

Even if Bernanke et al. (1999) demonstrated a general equilibrium approach to explain business cycle phenomena through credit market frictions, their model emphasizes the balance sheet channel—or the demand side of credits—because it lacks an explicit introduction of financial institutions. As Hall (2001) argued, a bank lending channel—or the supply side of funds—is equally important as the borrowers' balance sheet channel. For several reasons, including being subject to monetary tightening, banks may face difficulties in raising external funds to fund lending such as a decline in deposits. If banks cannot adjust their balance sheets by reducing holdings of short-term assets, this might restrict their ability to extend new loans. Under these circumstances, while highly creditworthy borrowers may be able to substitute other forms of financing for bank lending like bonds, less creditworthy borrowers such as small firms and individuals may be unable to switch from banks to alternative financing sources. These institutional constraints will be associated with a rise in an external finance premium and/or a tightening in nonprice conditions such as covenants or collateral requirements.

In addition to monetary policy shocks, nonmonetary shocks such as changes in the financial health of the banking sector and prudential regulations may shift the supply curve of loans. For instance, loan losses or a decline in prices of securities held in asset portfolios might reduce bank capital. Changes in prudential regulation such as introducing strengthened capital adequacy requirements might enable banks to less easily advance external finance. Banks' appetite for risk and their desire for liquidity on their own balance sheets may occasionally change so that their willingness to lend to borrowers falls.<sup>12</sup>

This bank-lending channel may be potentially significant if increases in interest rates lead to a reduction in the supply of bank loans and if these loans are imperfect substitutes for other forms of finance. Thus, a credit or capital crunch is more likely to matter in less-developed economies where

a substantial proportion of loans are intermediated by small and/or poorly capitalized banks. As the crunch takes place infrequently, the potential for substantial spillovers of financial instability to the real economy, as seen in the Asian crisis in 1997 and the earlier Latin American lending crisis in the 1980s, reminds policy makers and regulatory authorities in the emerging market economies of the need to improve the health of the banking system.

The macroeconomic implications of financial regulations such as capital adequacy requirements for banks as a shock propagation mechanism have attracted growing attention to financial architects whose aim is to maintain a fair amount of balance between financial stability and economic efficiency. Blum and Hellwig (1995), for example, studied the relationship between the U.S. credit crunch in the early 1990s and the 1988 Basel agreement. They were concerned as to whether a rigid link between bank equity capital and bank lending may act as an automatic amplifier for macroeconomic fluctuations inducing banks to lend more when times are good and to lend less when times are bad, thus reinforcing any underlying shocks. They found that under regular conditions, a shift from a regime of nonbinding capital adequacy requirements to a regime of binding capital adequacy requirements may induce a discontinuous increase in the sensitivity of equilibrium output and price with respect to a demand disturbance.

The procyclicality of financial regulations is now at the heart of the Basel II, which is supposed to replace the current formula-based bank capital adequacy requirements by the end of 2006. One of the core objectives of Basel II is to link capital requirements more closely to risks. Accordingly, in a downturn when risks are more likely to materialize, required capital requirements tend to increase. Then economic capital requirements and output growth will move in an opposite direction. If the required capital amounts increase, however, banks should reduce their loans and the subsequent credit squeeze would exacerbate the downturn. These procyclical features embedded in Basel II might amplify business cycle fluctuations and result in credit crunches when coupled with huge adverse shocks in an economy. Therefore, policy makers and academics should take into account the effects of structural changes in financial regulations.

In the following two sections, this study attempts to empirically assess the fragility of Korea's financial and corporate sectors from the viewpoint of systemic risks. After identifying the external shocks that trigger business fluctuations with a certain assumption, it traces the propagation and amplification paths suggested by the credit channel model and contagious factors among financial institutions whose asset portfolios are alike in and across the financial industries in the next section. Hence, this paper aims to evaluate the applicability in view of the business cycle in Korea so as to draw policy inferences regarding systemic risk management.

## Quantitative Identification of Systemic Crisis in Korea

### Measurement of External Shocks and the Responses

What is the nature of shocks that drive business fluctuations as well as economic growth? Are there purely financial shocks that do not originate from the real side of an economy but do affect the dynamics of real resource allocations? These are some of the most fundamental questions that macroeconomists have tried to answer but have not yet convincingly explained, despite studies in the area for more than two centuries. Many economists have considered technology innovation, monetary policy, oil price movements, government expenditures, tax increases, and financial regulations as candidates for the factors causing unexpected economic shifts. For example, Hansen and Prescott (1993) claimed technology shocks and Blanchard (1993) and Hall (1993) blamed consumption shocks as the cause of the 1990 recession in the United States. These shocks are, however, not the ultimate external sources of economic fluctuations, as they are all dependent upon past history and/or future expectations.<sup>13</sup>

Notwithstanding the importance of the causes of business cycles in the context of policy implications, this study does not focus on the nature of shocks but on measurement of the shocks that have occurred in the economy, regardless of their type. On the one hand, this research preference stems from the otherwise grandiose scope of work that would make it extremely difficult and challenging. On the other hand, the viewpoint of policy makers rather than of academics of intellectual curiosity considers that empirical findings be applied as policy responses to economic disturbances. In this vein, we ask how permanent and transitory shocks appear in the Korean cases. For example, this study seeks to determine, at least in hindsight, how sizeable those shocks were during the currency crisis in late 1997 and the following financial crises, if any, relative to the overall measure of aggregate risks. Understanding the size of the shocks and their dynamic effects, policy makers could predict an incoming path of shock evolution and take more appropriate and timely action once they are likely to cause a systemic crisis.

### Vector Auto-Regression with the Long-Run Restriction

To look at the interaction between the real and financial economy, this study considers a vector auto-regression (VAR) model consisting of variables from both sectors. Based on the premises that (1) there are multiple orthogonal shocks to the economy and (2) that these shocks may be either transitory or permanent, the VAR answers the following question: How and how much do the identified permanent and transitory shocks affect the cyclical variations in financial as well as real aggregate variables?

There have been extensive studies about the nature of a permanent shock in the context of real business cycles theory, which is often identified



as a shock from the supply side such as the one affecting the balanced growth path. For example, technological innovation to enhance labor productivity could have long-lasting favorable effects on aggregate output levels. In contrast, a transitory shock is believed to be somehow related to the demand side of an economy.

Let us run a two-variable VAR with a long-run restriction: The permanent shock affects the level of a real aggregate variable such as the GDP growth rate in the long run, but not that of a financial variable such as a default premium. In contrast, the transitory shock does not affect either the level of the real aggregate variable or that of the default premium. In a formal expression, the bivariate regression described above is constructed as follows:

$$(3.1) \text{ Bivariate regression: } \begin{bmatrix} \Delta y_t \\ f_t \end{bmatrix} = \begin{bmatrix} \phi_1 \\ \phi_2 \end{bmatrix} + A(L) \begin{bmatrix} \Delta y_{t-1} \\ f_{t-1} \end{bmatrix} + u_t,$$

$$(3.2) \text{ Long-run restriction: } u_t = \Gamma_0 \epsilon_t, \quad [(I - A(1))^{-1} \Gamma_0]_{1,2} \text{ and } \text{Var}(\epsilon_t) = \Sigma_\epsilon,$$

where  $\Gamma$  is a  $(2 \times 2)$  long-run restriction matrix,  $\epsilon_t$  is a vector of the permanent and transitory disturbances ( $\epsilon_t^p$  and  $\epsilon_t^t$ )' and  $\Sigma_\epsilon$  is a diagonal matrix.  $y_t$  and  $f_t$  stand for the GDP growth rate and default premium from the financial sector, respectively. The long-run restriction of (2.1.2) is methodologically the same as that of Blanchard and Quah (1989) and shares a similar methodology with the multivariate VAR by King et al. (1991) and Rotemberg and Woodford (1996).

A methodological ground for this bivariate VAR is to exactly identify the time series of both the permanent and transitory shocks. In Equation (3.2), once the variance of the shocks,  $\Sigma_\epsilon$ , is normalized as an identity matrix, the condition of  $[(I - A(1))^{-1} \Gamma_0]_{1,2} = 0$  with the estimated variance of residuals,  $u_t$ , yields the numbers of  $\Gamma_0$  because the four unknown elements of  $\Gamma_0$  are resolved with four independent equations.<sup>14</sup> Then the exact identification of the structural model enables us to quantitatively measure the shocks that have occurred as shown in the following subsection.

An economic motivation for the VAR with the GDP growth rate and default premium is to examine the credit channel dynamics triggered by the shocks. As mentioned earlier, the role of the financial markets is non-trivial at least in the amplification and propagation of external shocks, though they are seldom believed to generate the shocks themselves. The credit channel model like Bernanke et al. (1999), among others, takes into account the external financing premium, which is related to borrowing conditions depending on the financial health of the corporate sector. Indeed, the default premium, usually defined as the difference between the corporate bond yield and risk-free bond yield, captures a flavor of the

external finance premium. Thus, the simultaneous effects of the real output and bond market premium could reveal some clues on the role of finance.<sup>15</sup>

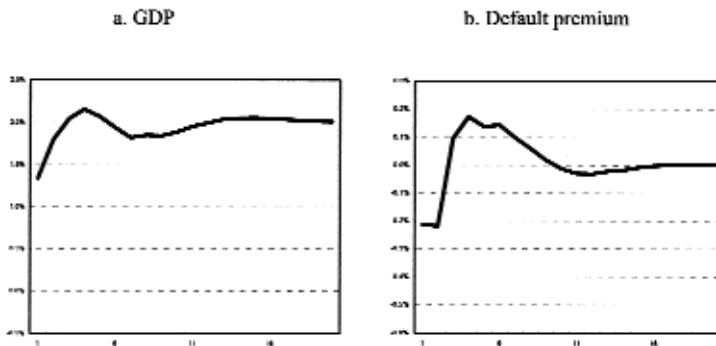
The data used in the regression are as follows: The time period considered is between 1987 to 2003 at a quarterly frequency due to the availability of the bond yields data set. As for the output, seasonally adjusted real GDP growth rates (relative to the previous quarter) are used. The default premium is measured as the difference between yields of investment grade corporate bonds in the over-the-counter (OTC) market and of the first type of National Housing Bond (NHB). Obviously, this is a poor measure for the default premium since the maturity of the two bonds is not identical—three and five years, respectively—and NHB is not at all a benchmark for a risk-free rate. Despite the unsatisfactory conditions, the premium could hardly be improved.<sup>16</sup>

## Results

### *Dynamic Responses to External Shocks*

The impulse response functions shown in Figures 10.1 and 10.2 summarize the dynamic effects of permanent and transitory shocks on the GDP growth rate and default premium in Korea. They represent percentage deviations from the steady-state values due to 1 percent shocks in a period and no shocks afterward. As assumed by the long-run restriction, the GDP growth rate increases permanently in response to the permanent shock, and the default premium will return to the steady-state level eventually due to the same shock in Figure 10.1. In contrast, the permanent effects of both the variables vis-à-vis the transitory shock phase out, as seen in Figure 10.2.

There are some noticeable features of the results on the impulse response. First and foremost, the default premium due to favorable



**Figure 10.1.** Impulse response functions due to 1 percent permanent shock: VAR with Lag 6

shocks, either permanent or transitory, declines initially for awhile. In response to a 1 percent unexpectedly good permanent signal, the premium declines by 0.2 percent away from the steady state for two quarters after the shock. This means that the corporate bond yield relative to the risk-free bonds decreases by more than 0.2 percent. The interpretation is that the improved economic condition due to the positive shock lowers the probability of a corporate default. The measured response of the default premium vis-à-vis a good temporary shock looks similar only with a difference in magnitude and persistence. This result is consistent with the argument made by the credit channel model. According to Bernanke et al. (1999), during a downturn in business activities the frictions on the borrowing conditions straitjacket the amounts of credit available to firms. For example, lower collateral values and increasing likelihood of bankruptcy allow firms to borrow less and/or to pay more interest during a recession. Thus, the impulse response results reconfirm that the credit channel model persists in Korea.

Second and as expected, the GDP growth rate increases due to both the permanent and transitory shocks. In particular, the real aggregate quantity responds quite briskly to the permanent shock in the sense that a unit increase in the permanent and positive shock drives GDP growth rate upward by twofold. This magnitude of the response is much greater in Korea than that in the United States, which means that Korea is much more responsive to permanent aggregate shocks. In contrast, the response of GDP growth rate due to temporary shock is quite modest.

Third—and summarizing the first and second points—the effects of permanent shock on the real aggregate quantities are greater, whereas the financial price variables are much more resilient when hit by a transitory shock. This observation implies that a small disturbance in leading the GDP level change permanently lowers the level of bond yields quite uni-

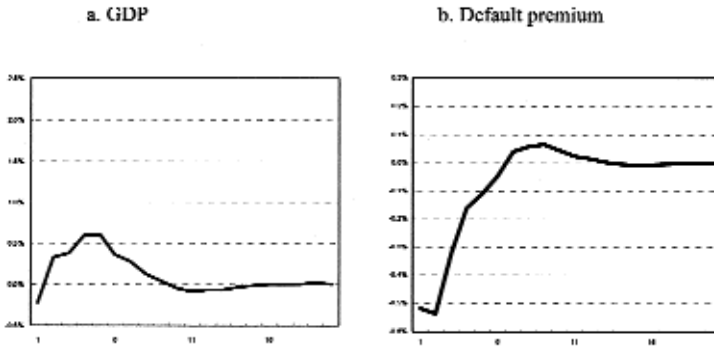


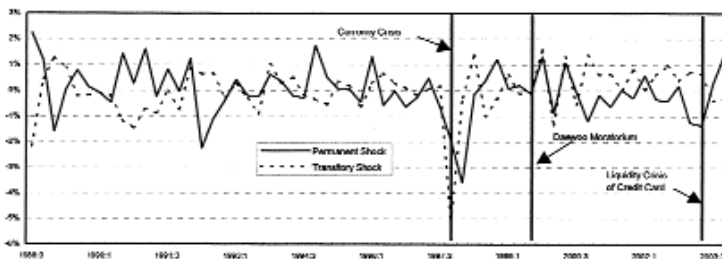
Figure 10.2. Impulse response functions due to 1 percent transitory shock: VAR with Lag 6

formly, regardless of the level of default risks. In addition, it also implies that whatever is driving the GDP level to change only temporarily drives much larger swings in the differences of borrowers' capability to mobilize external finances via the varying fluctuations in corporate bankruptcy rate and collateral values of their fixed assets and securities held.

### *Identified Shock Series*

Figure 10.3 displays the identified time series of permanent and transitory shocks from the third quarter of 1988 to the fourth quarter of 2003.<sup>17</sup> Under this assumption, they are normalized with a mean of 0 and a standard deviation of 1, so that the series swings around 0. One of the most interesting features is observed around the 1997 currency crisis and ensuing years of the financial crisis. Over the entire sample period, the measured permanent and transitory shocks are the largest in the first quarter of 1998 and the fourth quarter of 1997, respectively. Furthermore, the size of the shocks is by far larger than that of all the other periods. The transitory shock in the last quarter of 1997 is measured to be  $-5.19$  percent, indicating the occurrence of a huge temporary hit, which rarely occurs in the statistical sense. Also the permanent shock in the next quarter is  $-3.6$  percent, which rarely occurs as well.

Regarding the crisis, a relevant follow-up question would be why the transitory shock preceded the permanent shock. Part of the answer refers to price variables in the financial markets reacting earlier than real aggregate quantities to the outbreak of unanticipated disturbances;<sup>18</sup> in that the former contains forward-looking expectations susceptible to the disturbances, while the latter reflects backward-looking performance of economic activities. Since the currency crisis hit in late November, postcrisis performance was partly captured by GDP growth rate during the fourth quarter. That is to say, October and November activities offset the contraction after the crisis. However, the default premium measured in this study represents the difference between bond yields at the end of quarter. Thus, bond prices captured the full story of the crisis and future expectations as



**Figure 10.3.** Identified shock series from 1988:3 to 2003:4

of the end of 1997. This data description partly accounts for the huge negative transitory shock preceded by the ensuing permanent shock.

Figure 10.3 also demonstrates the Daewoo moratorium in the third quarter of 1999. There is a consensus held by economists and policy makers that the insolvency of the Daewoo Group—the second-largest business conglomerate in Korea—might have led to the crisis; however, the measured shocks are negligible for that quarter. This observation opens the door to several interpretations—one being that the time series of the bond yields was severely distorted at that time. As a matter of fact, the Bond Stabilization Fund had been operated to respond to massive fund withdrawals from the investment trusts and to control interest rate swings in the corporate bond markets from August 1999 to February 2000. More importantly, in 1999 aggregate performance was extremely good, which was partly due to an unprecedented deep trough in 1998 followed by a rebound in 1999 and partly due to the high foreign demand driven by the world economic boom of 1999.

Figure 10.3 also shows the depth of the liquidity crisis the credit card industry was experiencing in the second quarter of 2003. The economic slowdown in 2002 contributed to sluggish GDP growth rate in the early part of 2003. Additionally, the SK Group's liquidity and solvency problems set off by the auditing scandal severely hit the corporate bond markets, especially the liabilities issued by the highly levered credit card companies, which had advanced enormous amounts of credit to millions of delinquent consumers. This event seems to be very significant statistically. The size of the permanent shock that came in the second quarter of 2003 was actually the largest since the first quarter of 1998 and ranked fourth largest over the entire period from 1988 to 2003. However, the bond market crash in terms of price was not so problematic, despite diminished trading volume. In fact, the regulatory measures that were taken by intervening in the bond market such as credit ratings, funding, and coordination among stakeholders contained widespread contagion of the problem. Thus the permanent shock that is more or less related to the real economy seems to have played a greater role in the overall performance than the transitory shock, which presumably reflects the financial economy more.

Figures 10.4 and 10.5 present the histograms for the permanent and transitory shocks measured, respectively, which is overlapped by a standardized normal distribution with a mean of 0 and standard deviation of 1. As seen in the figures, both shocks are more concentrated around the mean than the normal distribution. In the case of the permanent shock, the histogram in Figure 10.4 is quite balanced, with one negative outlier at the time of the crisis. The histogram in Figure 10.5 displays more favorable events and a far outreaching and improbable transitory shock.

## Vulnerability of the Korean Economy to External Shocks

### Two Contagion Paths

Suppose that the external shocks occurred as measured in the previous section. Then we could ask the question: How did the shocks propagate over time and in what fashion? This section tries to answer these questions by looking at the microeconomic financial conditions of corporations and financial institutions in Korea.

As argued earlier, we could imagine two channels in which a shock propagates and amplifies into a crisis. First, we look at the financial statements of borrowers. Once a shock causes a shift in real aggregate quantities, such as a drop in GDP, the consequences on the corporate balance sheets are about to exacerbate the corporate creditworthiness by way of lowering profitability. Also, the decline in asset prices would lead to a decline in the collateral value, which in turn constrains the borrowing conditions and terms. If this chain reaction of effects in the credit channel is set off, the damage to the real economy will be more serious and persistent. This financial chain reaction is the story laid out by Kiyotaki and Moore (1997) and Bernanke et al. (1999). The following subsection attempts to unveil the determinants of corporate funding rates by considering macro- and microvariables simultaneously.

The second channel by which shocks can propagate and amplify before becoming widespread is the asset portfolios held by financial institutions. Banking crises generally stem from the asset side of a bank's balance sheets—from a protracted deterioration in asset quality. For example, the asset holdings of banks are very similar across the sector, and one of the highly concentrated assets becomes sour, as did the bonds issued by credit card companies in 2003. Since most of the banks hold a considerable quantity of bonds relative to their capital position, the problems at the credit card companies triggered the banks' capital inadequacy. In order to avoid regulatory responses such as prompt corrective action, banks should reduce the amount of funds available for loans and withdraw investments

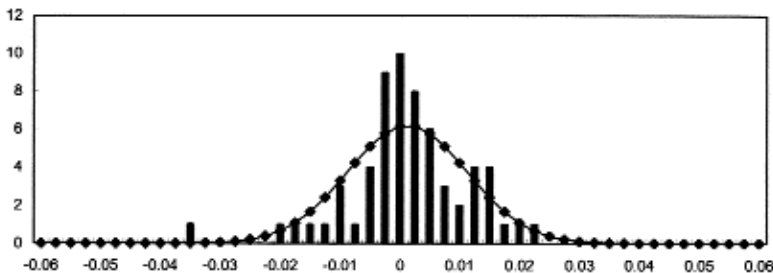


Figure 10.4. Histogram of permanent shocks

early. The supply-side response to a shock from the lenders' point of view exaggerates the depth of the credit crunch, potentially bringing about a systemic crisis. In a way, this episode lets us place more emphasis on the financial health of banks and assimilation of their asset portfolios. This channel is reviewed with relevant statistics below.

### Capital Gearing and External Finance Premium

This subsection tests the effect of the credit channel on a shock's propagation and amplification, as suggested by Bernanke and Gertler (1989), Kiyotaki and Moore (1997), Bernanke et al. (1999), and others. The hypothesis posed here is whether a firm's capital structure—or capital gearing measured by the ratio of debts to equities—affects corporate borrowing rates. The importance of capital gearing has been argued in many studies utilizing credit channel models in the context that deterioration (improvement) in borrowers' net worth increases (decreases) financing costs.

In the following regression analysis using a firm-level data set, I consider many of a firm's controls, such as profitability, liquidity, size of firms, credit ratings, and macroeconomic conditions, in order to incorporate fixed and year effects. For instance, profitability of a firm's projects executed in a specific year may affect borrowing rates regardless of its debt-to-equity ratio. Under similar reasoning, the firm's borrowing condition depends on its liquidity level and macroeconomic conditions, such as GDP growth rate and monetary policy measured by call rates. Because of the asymmetric accessibility of the bond market, the firm's size—whether it is a large company or an SME (small and medium-sized enterprise)—could also determine the borrowing terms.

Before running the regressions, let us briefly overview the relationship between the borrowing interest rates and other explanatory variables. Figure 10.6 demonstrates the relationship between capital gearing and borrowing rate. At first glance, a clear positive correlation is observed except for the periods around the 1997 crisis. Figure 10.7 displays an inverse relationship between the interest coverage ratio and borrowing rate. Figures 10.8 and 10.9 show the relationship between the GDP growth rate and bor-

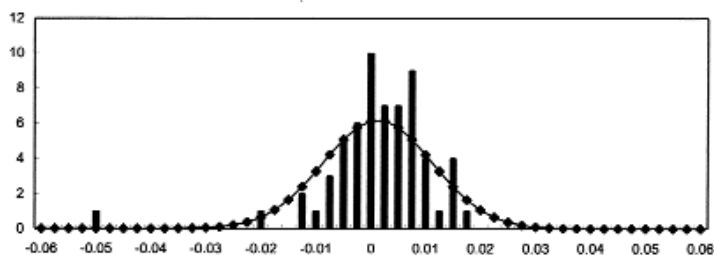


Figure 10.5. Histogram of transitory shocks

rowing rates in terms of large companies and SMEs, which is also negatively correlated. Finally, Figure 10.10 ranks the borrowing rates based on credit ratings: The more poor a credit rating, the higher the corresponding borrowing rate. In sum, all of the figures conform to conventional wisdom.

With this basic statistical information, let us run the following unbalanced panel regression over the periods between 1991 and 2003:

$$\log(ABR_t^i) = \alpha_0 + \alpha_1 \log(CG_{t-1}^i) + \alpha_2 \log(ICR_t^i) + \alpha_3 \log(CFT_t^i) \\ + \alpha_4 Size_t^i + \alpha_5 \log(CR_t^i) + \alpha_6 \log(RGDP_t^i) + \alpha_7 \log(CALL_t^i) + \xi_t^i$$

Here, the dependent variable,  $ABR_t^i$ , is the average borrowing rate of a firm  $i$  in period  $t$ . The explanatory variables consist of firm  $i$ 's capital gearing (or debt-to-equity ratio) at the end of the previous period,  $CG_{t-1}^i$ ; interest coverage ratio (or operating profits divided by interest expenses),  $ICR_t^i$ ; ratio of annual cash flows relative to turnovers,  $CFT_t^i$ ; size dummy,  $Size_t^i$ ; credit rating,  $CR_t^i$ ; and two macrovariables such as annual real GDP growth rate,  $RGDP_t^i$ , and one-day call rate averaged out over period  $t$ ,  $CALL_t^i$ . For the study, we are interested in companies that have been externally audited and issued bonds or commercial paper and for which a credit rating exists.<sup>19</sup>

The results over the entire sample are summarized in Table 10.1. Without controlling for other variables, capital gearing is positively and significantly correlated to borrowing rates in the column 1. Even if we consider relative profitability to the debt burden, or interest coverage ratio and liquidity relative to business activities, or cash flows to turnover, the positive correlation between capital gearing and borrowing rates or the negative correlation between borrowers' net worth and borrowing rates survives in columns 2 and 3. Also, with everything else being equal, higher profitabili-

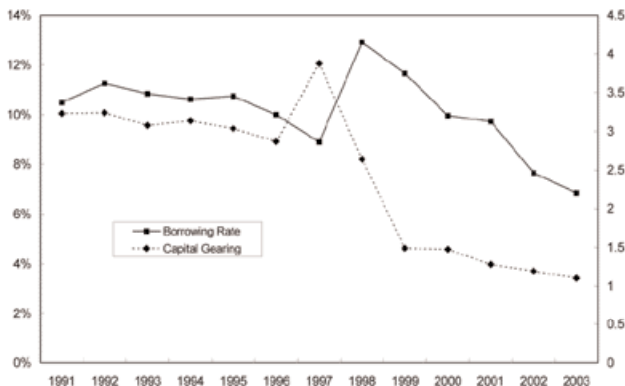


Figure 10.6. Capital gearing and borrowing rate



ty and liquidity reduce the borrowing interest rates. All of these results in Korea are consistent with what is predicted in the credit channel model.

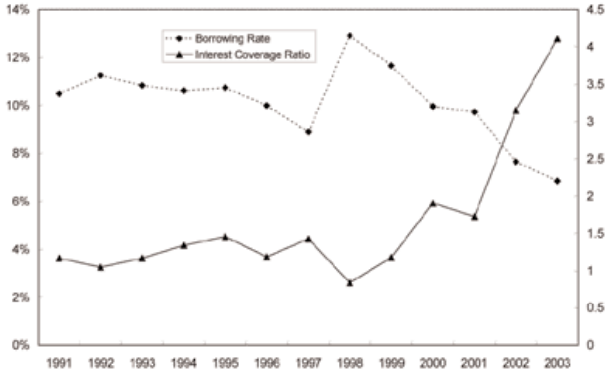


Figure 10.7. Interest coverage ratio and borrowing rate

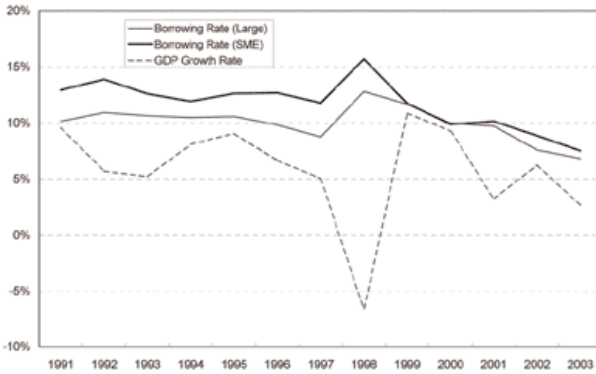


Figure 10.8. GDP growth rate and borrowing rate by firm size

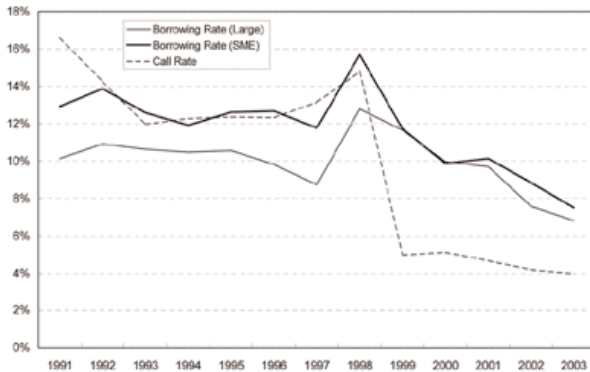


Figure 10.9. Call rate and borrowing rate by firm size

If we control other factors that could presumably affect interest rates, the results are different. Columns 4, 5, and 6 in Table 10.1 show the relative

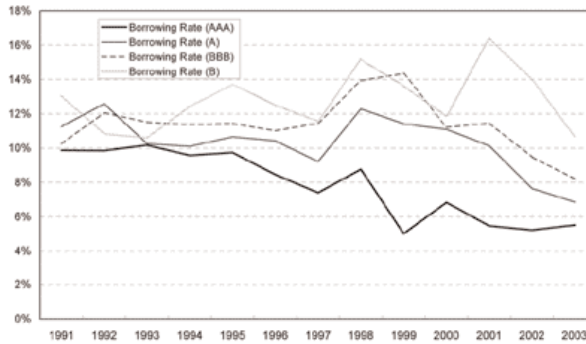


Figure 10.10. Borrowing rate by credit rating

Table 10.1. Determinants of average borrowing rate: Entire sample

$$\log(ABR_t^i) = \alpha_0 + \alpha_1 \log(CG_{t-1}^i) + \alpha_2 \log(ICR_t^i) + \alpha_3 \log(CFT_t^i) + \alpha_4 Size_t^i + \alpha_5 \log(CR_t^i) + \alpha_6 \log(RGDP_t^i) + \alpha_7 \log(CALL_t^i) + \epsilon_t^i$$

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log(CG<sub>t-1</sub>)</i>	0.09295*** (0.01093)	0.06851*** (0.00857)	0.06343*** (0.00928)	0.2209** (0.00934)	0.00995 (0.00985)	0.0036 (0.01057)
<i>Log(ICR<sub>t</sub>)</i>		-0.05508*** (0.00750)	-0.0506*** (0.00946)		-0.03252*** (0.00804)	-0.02897*** (0.00993)
<i>Log(CFT<sub>t</sub>)</i>			-0.04843*** (0.01001)			-0.04184*** (0.01039)
<i>Size dummy</i>				-0.03012* (0.01631)	-0.04515*** (0.01696)	-0.04396** (0.01786)
<i>Log(CR<sub>t</sub>)</i>				-0.23542*** (0.02941)	-0.20772 (0.03304)	-0.21347*** (0.03570)
<i>Log(RGDP<sub>t</sub>)</i>				0.10134*** (0.02091)	0.10237*** (0.02168)	0.1009*** (0.02273)
<i>Log(Call<sub>t</sub>)</i>				0.18556*** (0.01801)	0.16964*** (0.01905)	0.17364*** (0.02017)
No. of observations	5611	5131	4800	5159	4739	4466
Adjusted R <sup>2</sup>	0.0245	0.0332	0.0392	0.0601	0.0645	0.0707

Abbreviations: ABR=average borrowing rate; CG = capital gearing or debt-to-equity ratio; ICR = interest coverage ratio; CFT = cash flow / turnovers; size dummy = 0 for SME, 1 for large company; CR = credit rating; RGDP = annualized real GDP; call = annualized average call interest rate.

insignificance of capital gearing in determining the borrowers' funding costs, while all the other controlled variables are reasonably significant. For example, firm size does affect borrowing costs in favor of large companies, and also companies with higher credited ratings spend less in mobilizing external finances. The aggregate factors like overall GDP growth rate and call rate, a proxy for monetary policy, also significantly affect the firms' unit interest costs. The capital gearing, however, becomes insignificant, especially in columns 5 and 6. From Table 10.1 we could also infer that the aggregate factors are dominant over idiosyncratic and firm-specific financial structure and business performance in determining the interest costs. This implies that, at least in Korea, macro factors, rather than the credit channel, could be more important in weighing in corporate risk. Hence, this brings us to the conclusion that the credit channel effect is rather minor in terms of systemic risk and that macroeconomic shocks attract more attention. This result is consistent with Hall's point (2001) that the balance sheet channel effects in underdeveloped or developing countries are less significant than in developed countries.

Tables 10.2 and 10.3 show the results of the sample bifurcated into two groups: large companies and SMEs. Looking at the results, there are many observations that differentiate the SMEs from large companies. One of the differences between the two groups is that capital gearing differently affects the borrowing costs by firm size, while the effects are not at all significant in both cases. While the large companies are less subject to financial health in borrowing, the SMEs look more or less desperate in trying to establish a sound financial structure so as to reduce external financing costs. The second difference is the effectiveness of the credit ratings. As for large companies, a good credit rating is crucial because they borrow much from the capital markets. On the contrary, the SMEs' major funding sources are financial institutions rather than the bond market. Thus, official credit ratings take a relatively secondary role in borrowing decisions. Third, as seen in Tables 10.2 and 10.3, both the real GDP growth rate and call rate have a significantly positive relationship with the firms' borrowing costs. Among the macrovariables, however, the SMEs are affected more severely by monetary policies, whereas real shocks affect large companies more in leading changes in the GDP growth rate. According to the regression with all explanatory variables (column 6 of Tables 10.2 and 10.3), the elasticity of the borrowing interest rates of large companies with respect to real GDP growth rate is 0.12, while it is 0.04 for the SMEs. The elasticity with respect to the call rate for the SMEs (0.31) is greater than that of the large companies (0.14). These estimates are quite plausible when we recall that the SMEs' liabilities are concentrated in short maturity claims, so as to the borrowing costs with short-term nominal interest rates. Also, the high explanatory power in real GDP for the borrowing costs of

large firms is easily reconciled with the relatively large contributing share of their outputs to GDP.<sup>20</sup>

**Risk Contagion in the Balance Sheets of Financial Institutions**

A bank collapse multiplies the harmful effects of an initial shock, as the tightening of credit and costly liquidation of investment projects real output and collapses in asset prices. It is even more harmful when a certain bank’s risks are contagious to other financial institutions, which can lead to a systemic crisis. A massive and simultaneous cascade of distressed financial institutions originates from the interrelated asset positions among these institutions. Since financial institutions can become in need of liquidity when customers make unexpected withdrawals, the credit lines among financial institutions allow them to cope with liquidity shocks and to save costs related to maintaining reserves. However, as Freixas et al. (1999) argued, the interbank market exposes the system to coordination failure even if all banks are solvent.<sup>21</sup>

There are roughly three sources of contagion in the balance sheets of financial institutions: payment systems, the interbank market, and derivatives. In order to completely understand the payment systems, a compre-

**Table 10.2.** Determinants of average borrowing rate: Large companies

$$\log(ABR_t^i) = \alpha_0 + \alpha_1 \log(CG_{t-1}^i) + \alpha_2 \log(ICR_t^i) + \alpha_3 \log(CFT_t^i) + \alpha_4 \log(CR_t^i) + \alpha_5 \log(RGDP_t) + \alpha_6 \log(CALL_t) + \xi_t^i$$

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log(CG<sub>t</sub>)</i>	0.07699*** (0.01180)	0.04062*** (0.01331)	0.02984** (0.01426)	0.01123 (0.01423)	-0.00869 (0.01522)	-0.02080 (0.01606)
<i>Log(ICR<sub>t</sub>)</i>		-0.06547*** (0.01046)	-0.04535*** (0.01296)		-0.02893** (0.01170)	-0.00470 (0.01415)
<i>Log(CFT<sub>t</sub>)</i>			-0.08023*** (0.01350)			-0.08741*** (0.01432)
<i>Log(CR<sub>t</sub>)</i>				-0.31971*** (0.04215)	-0.31618*** (0.04752)	-0.32677*** (0.04998)
<i>Log(RGDP<sub>t</sub>)</i>				0.11487*** (0.02690)	0.11892*** (0.02811)	0.12194*** (0.02917)
<i>Log(CaLL<sub>t</sub>)</i>				0.12633*** (0.02428)	0.12723*** (0.02645)	0.13761*** (0.02757)
No. of observations	2973	2760	2602	2714	2528	2407
Adjusted R <sup>2</sup>	0.0138	0.0252	0.0363	0.0421	0.0472	0.0619

**Abbreviations:** ABR = average borrowing rate; CG = capital gearing or debt-to-equity ratio; ICR = interest coverage ratio; CFT = cash flow / turnovers; size dummy = 0 for SME, 1 for large company; CR = credit rating; RGDP = annualized real GDP; call = annualized average call interest rate.

hensive fund flow chart is needed to capture the issuers and underwriters by financial sectors and institutions. The massive scope of this task makes it nearly impossible to do for those outside of the financial regulatory authorities. Thus, the study bypasses this task by examining the portfolios of Korean financial institutions, while placing more emphasis on commercial banks. More specifically, this study investigates the balance sheets of banks and then tries to determine their assimilation and vulnerability to common shocks. This approach shares the spirit of de Bandt and Hartmann (1998) and Kaufman (1994) in that pure panic contagion is rare; far more common is contagion through perceived correlations in the asset returns of financial institutions. Next, derivative trading and outstanding balance at the financial institutions that have recently become increasingly important in credit and market risk management will be considered from the viewpoint of systemic risk management.

*Assimilation of Banks' Balance Sheets*

In order to check whether systemic risk is present in the contagion of financial distress among banks, the asset portfolios are scrutinized across

**Table 10.3.** Determinants of average borrowing rate: SMEs

$$\log(ABR_t^i) = \alpha_0 + \alpha_1 \log(CG_{t-1}^i) + \alpha_2 \log(ICR_t^i) + \alpha_3 \log(CFT_t^i) + \alpha_4 \log(CR_t^i) + \alpha_5 \log(RGDP_t^i) + \alpha_6 \log(CALL_t^i) + \xi_t^i$$

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log(CG<sub>t,i</sub>)</i>	0.09172*** (0.01049)	0.06938*** (0.01117)	0.07429*** (0.01223)	0.01988* (0.01201)	0.01193 (0.01238)	0.01474 (0.01346)
<i>Log(ICR<sub>t</sub>)</i>		-0.06048*** (0.01055)	-0.08645*** (0.01347)		-0.05552*** (0.01068)	-0.08012*** (0.01330)
<i>Log(CFT<sub>t</sub>)</i>			-0.00786*** (0.01443)			0.01637 (0.01424)
<i>Log(CR<sub>t</sub>)</i>				-0.10334*** (0.04000)	-0.03187 (0.04436)	-0.04288 (0.04927)
<i>Log(RGDP<sub>t</sub>)</i>				0.06739** (0.03264)	0.05004 (0.03347)	0.04248 (0.03527)
<i>Log(CaLL<sub>t</sub>)</i>				0.33130*** (0.02723)	0.30477*** (0.02822)	0.31042*** (0.03002)
No. of observations	2411	2174	2012	2241	2033	1889
Adjusted R <sup>2</sup>	0.0303	0.0454	0.0552	0.0911	0.1004	0.1095

*Abbreviations:* ABR = average borrowing rate; CG = capital gearing or debt-to-equity ratio; ICR = interest coverage ratio; CFT = cash flow / turnovers; size dummy = 0 for SME, 1 for large company; CR = credit rating; RGDP = annualized real GDP; call = annualized average call interest rate.

banks and over time. Figures 10.11 and 10.12 demonstrate the movement in asset holdings by the four major Korean commercial banks: Kookmin Bank, Shinhan Bank, Woori Bank, and Hana Bank. One of the most striking features is that asset portfolios vary sharply over time but are similar at a given time. This means that banks may be subject to common risk factors or at least keep to the same trends in a strategically similar manner. In addition, the assimilation of the banks' balance sheets strengthens due to the recent trend of financial conglomeration (Hahm and Hong 2003). By combining these observations, Korea's banking sector now seems exposed, in the ex ante sense, to systemic risks much more than in the past.

The common credit risks found among Korean banks can be reconfirmed by the pattern of the loan loss provisions and loan write-offs. In principle, loan loss provisions should reflect future expected losses on loans, but in practice accounting conventions are backwards rather than forward looking. Particularly, specific provisions can only be made once the debt becomes impaired. Also, general provisions that should cover losses, which have not yet been identified, do cover the losses that current-

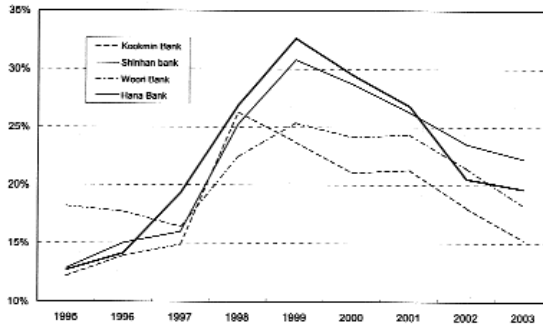


Figure 10.11. Ratio of securities to assets by major commercial banks

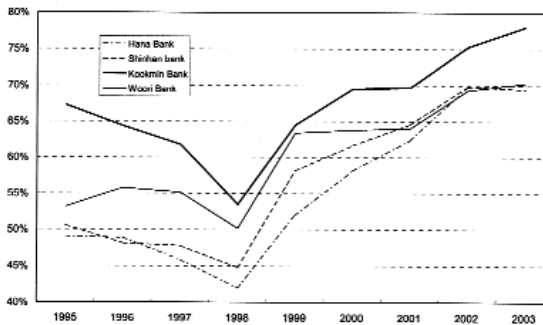


Figure 10.12. Ratio of loans to assets by major commercial banks

ly lie latent in the book. That is to say, the provisions reflect actual rather than expected losses. These practices make us take the loan loss provisions as the proxy for actual losses that have occurred for whatever reason.

What shocks push the banks to raise their provisions? Part of the answer can be found in Figures 10.13, 10.14, and 10.15, which display the loan loss provisions and write-offs relative to total assets for the four major commercial banks. These graphs imply that the variation in provisions among the banks is lower than that over time. This seems to suggest that over time the major Korean banks could be susceptible to common shocks rather than idiosyncratic shocks.<sup>22</sup> Therefore, policy makers and financial regulators should pay more attention to aggregate shocks, as well as their impact on bank capital adequacy in order to prevent and manage systemic risks.<sup>23</sup>

*Risk Exposure to Derivative Holdings*

Financial innovations have brought about a host of techniques with which financial institutions can manage various risks, but at the same time, so have the ways in which they could be driven to take excessive risks. Deriv-

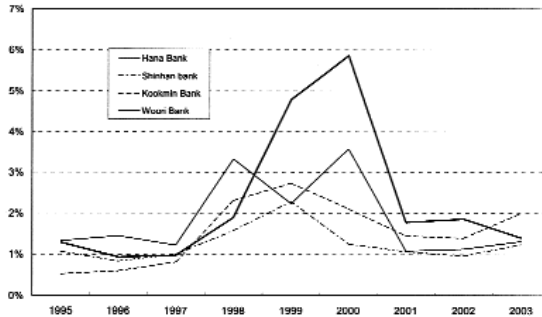


Figure 10.13. Loan loss provisions of major commercial banks

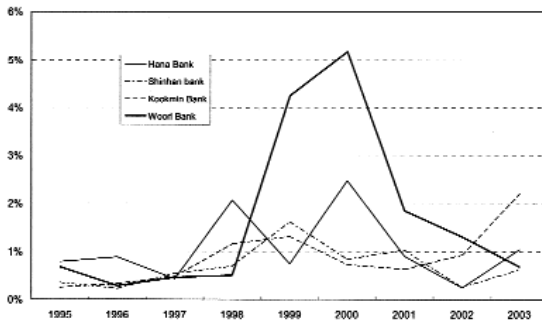
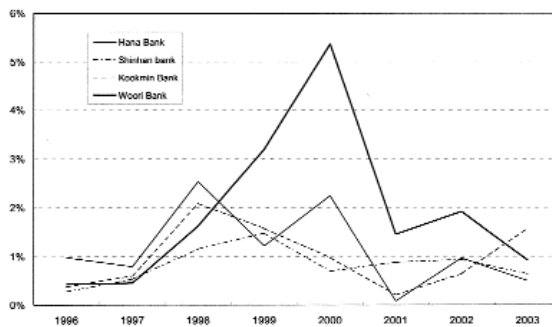


Figure 10.14. Loan write-offs of major commercial banks

ative securities—such as forwards, futures, options, and swaps—have become one of the most important instruments used for hedging and taking risks. Hence, monitoring the derivative positions of financial institutions should be a key task in systemic crisis management as well.

In Korea, the origin of derivatives goes back to the 1980s when exchange rate forwards began to be traded to hedge against exchange risks due to the heavy volume of imports and exports. Recently, derivatives have become one of the major sources of noninterest revenues among financial institutions, especially for banks and securities companies. Tables 10.4, 10.5, and 10.6 show derivatives trading by types and financial sectors in 2003. Since most of the derivatives are traded by securities houses with short-term contracts, trading volume is astronomical, but the outstanding balance as of the end of 2003 is relatively smaller, albeit still a significant amount in view of total assets. For instance, banks held KRW 979 trillion, which is about 90 percent of their total assets (see Table 10.7). Because of the huge long balances at foreign branches rather than domestic commercial banks, the risks are more concentrated among foreign banks. However, the risk of a shortfall in the domestic banking industry is quite worrisome. According to Table 10.8, the credit risk exposure of domestic banks reaches 13 percent, while in the United States it is only 6 percent. Why are financial institutions so driven to trade derivative securities? Table 10.9 provides a clue that profit making may be a considerable factor. But we must recall that financial incidents always start with excessive risk-taking behaviors in order to exploit seemingly arbitrage opportunities and that derivatives are related to market aggregate risks to which the Korean financial system is especially vulnerable. Hence, Korean financial regulatory authorities should thoroughly examine the risk exposure associated with derivative holdings at the banks and securities companies from the viewpoint of systemic risk management.



**Figure 10.15.** Net increase in loan loss provisions of the major commercial banks



## Summary and Conclusion

This study is designed to provide policy makers and financial regulatory authorities with an empirical perspective on systemic risk management. To this end, it aims to answer the following questions. First, how and how much do macro aggregate shocks affect both Korea’s real and financial economies? Second, how do we identify the shocks to the extent that quantitative implications can be derived for policy makers? Third, does the financial structure of firms in Korea play a role in the propagation and amplification of external shocks, ultimately leading to a crisis? Fourth, how vulnerable are Korean financial institutions to contagious systemic risks by way of their asset portfolios?

**Table 10.4.** Derivatives trading by type (unit: trillion won, %)

	Trading amount				Outstanding balance			
	Stock	Interest rate	Exchange rate	Total	Stock	Interest rate	Exchange rate	Total
Forward	0.3	30	1,583	1,613 (7.5)	0.0	4	344	348 (34.1)
Future	1,314	1,803	120	3,237 (15.0)	2	16	2	20 (2.0)
Swap	0.1	240	113	353 (1.6)	0.1	389	166	555 (54.3)
Option	16,244	29	72	16,345 (75.9)	25	35	39	99 (9.6)
Total	17,588	2,102	1,888	21,548 (100)	27	444	552	1,022 (100)

**Table 10.5.** Derivatives trading by financial sectors (unit: trillion won, %)

	Trading amount		Outstanding balance	
Bank	2,941	(13.6)	979	(95.7)
Security	17,405	(80.8)	15	(1.5)
Insurance	54	(0.3)	20	(1.9)
Trust*	647	(3.0)	7	(0.7)
Others**	501	(2.3)	1	(0.2)
Total	21,548	(100.0)	1,022	(100.0)

\*Trust = bank trust + investment trust

\*\*Others= credit card + future + merchant bank

**Table 10.6.** Derivatives trading in the exchange and over-the-counter (unit: trillion won, %)

		Stock	Interest rate	Exchange rate	Others	Total
Trading amount	Exchange	17,540 (90.1)	1,804 (9.3)	119 (0.6)	2 (0.01)	19,465 (100.0)
	OTC	17 (0.8)	298 (14.3)	1,767 (84.9)	– –	2,083 (100.0)
Outstanding balance	Exchange	10 (34.4)	17 (57.7)	2 (7.9)	– –	30 (100.0)
	OTC	16 (1.6)	426 (43.0)	550 (55.4)	– –	992 (100.0)

Source: Financial Supervisory Service.

**Table 10.7.** Ratio of derivatives outstanding balance to total assets (unit: trillion won, %)

	Bank			Security	Insurance	Total	Commercial bank in the U.S.
		Domestic bank	Foreign branch				
Total assets	1,089	1,000	89	56	221	1,366	5,902
Nominal balance of derivatives	979	380	598	15	20	1,013	70,005
Ratio	0.90	0.38	6.72	0.27	0.09	0.74	11.86

Source: Financial Supervisory Service, Office of the Comptroller of the Currency.

**Table 10.8.** Credit risk exposure by financial sectors (unit: trillion won)

	Bank			Security	Insurance	Total	U.S. commercial bank
		Domestic bank	Foreign branch				
Adjusted capital (A)	81	76	6	5	25	111	–
Credit conversion (B)	25	10	15	0.4	2	27	–
Credit risk exposure (A/B)	0.31	0.13	2.52	0.07	0.06	0.24	0.06

Source: Financial Supervisory Service, Office of the Comptroller of the Currency.

Note: Add on: (nominal balance × conversion rate by commodity and maturity).

To these questions, this study provides the following answers. First, macro aggregate shocks do matter in the sense that they could multiply disturbances and bring about very persistent effects on the real economy. In particular, the permanent shock that affects the level of real aggregate quantities—for instance, the one shifting labor productivity—disturbs the real side of an economy a lot, while it brings about temporary disorder in the financial side. In contrast, the influences of a transitory shock seem limited to the financial markets.

Second, the size of the identified shocks with long-run restrictions could well explain the depth of the 1997–98 financial crisis. The identification also enables us to compare the shocks that have occurred over a certain time period. This explanation is particularly well suited in the ex post sense, but further research to draw policy implications is needed in the ex ante application of the methodology.

Third, capital gearing seems positively related to a firm’s borrowing costs. However, after considering other factors that could presumably affect the costs of external financing, we were able to find only a weak correlation between the firm’s financial structure and borrowing costs. Instead, macrovariables like real GDP growth rate and short-term nominal interest rates better explain the variations in unit corporate borrowing costs. We can interpret this result as meaning that, on average, Korean firms are more vulnerable to macro aggregate risk factors rather than idiosyncratic risks.

Fourth, the asset portfolios of Korean financial institutions have moved together in a similar fashion over time. And the assimilation of their asset portfolios has been strengthened. This implies that Korean financial institutions are also subject to more common risk factors than idiosyncratic risks such as nonfinancial firms.

All of the aforementioned results uniformly stress the importance of macro aggregate risks in systemic crisis management. In this context, policy makers and financial regulatory authorities should place more attention on determining the characteristics of macro risk factors, of which the quantity is measured here—but their nature remains unanswered.

**Table 10.9.** Profits from derivatives trading (unit: 100 million won)

	Bank		Security	Insurance	Total
	Domestic bank	Foreign branch			
Profits from derivatives trading (A)	5,260	1,430	2,340	45	7,645
Operating profits (B)	38,130	32,200	12,560	39,170	89,860
Ratio (A/B)	13.8	4.4	18.6	0.1	8.5

Source: Financial Supervisory Service.

## Appendix: Corporate Data Used

The corporate data set used in the analysis is based on National Information and Credit Evaluation (NICE) statistics. Out of the externally audited companies from 1991 to 2003, companies were selected based on their credit ratings and the number of employees in order to measure the fixed effect of credit ratings and firm size effect. In Korea, the classification for the small and medium-sized enterprises (SMEs) follows the amount of paid-in capital less than KRW 80 million or the number of employees less than 300. In order to exclude contamination of the results, the firms whose liabilities exceed their assets were not captured in the sample. The number of sample firms that satisfy the existence of data is 7,051, which counts the same firm in different years separately.

The variables are constructed in the following way:

1. Average borrowing rate = interest expense / total borrowing;
2. Total borrowing = short-term borrowings + current portion of long-term liabilities + bonds + long-term borrowings + long-term trade payables + long-term payable-lease;
3. Debt-equity ratio = total liabilities/total stockholders' equity;
4. Interest coverage ratio = operating income/interest expense; and
5. Cash flows from operating activities = net income + depreciation + amortization of intangible assets/deferred charges + provision for liabilities + other expenses without cash outflows + other revenues without cash inflows.

Credit ratings by year are constructed in the following manner: When a new credit rating is issued for bond issuance on a certain date, we take the credit rating of the firm to the very first date of the year. Thus, a credit rating in a particular year used in the analysis is the one during the year. If no new credit rating is given in a particular year, the preexisting credit rating is counted as valid. When long-term bond ratings are not available, credit ratings for short-term commercial papers are used with a comparison table between bonds and commercial papers.

The remaining macrovariables are real GDP growth rates and call rates. It is very simple and standard procedure to use real GDP growth rates. As for the call rates, we use the average of monthly call rates for one-day maturity without collateral. The average of monthly time series is used on the premise that corporate borrowings occur uniformly for a given year.

## Notes

1. A systemic financial crisis refers to an incident of potentially severe disruptions in financial markets that, by impairing markets' ability to function effectively, can have large adverse effects on the real economy.

2. Hoggarth et al. (2001) measured the costs of banking crises in terms of two categories: direct resolution costs and welfare costs. Direct resolution costs refer to the wealth redistribution from taxpayers to stakeholders of intervened banks, which has microeconomic implications. These costs are found to be larger in lower-income countries and those with higher degrees of banking intermediation. The cumulative output losses, a proxy for welfare costs, are estimated at around 15 to 20 percent of annual GDP. The losses are much larger in the event of a twin banking and currency crisis than in the case of a banking crisis alone. Bordo et al. (2001) also reached a similar size of measured depth of various crises in terms of cumulative output losses: 5.9 percent losses to currency crises, 6.2 percent losses to banking crises, and 18.6 percent losses to twin crises.
3. The deteriorating credit market conditions include sharp increases in insolvent and bankrupt firms, rising real debt burdens, collapsing asset prices, bank failures, and so on.
4. Fisher (1933) deduced the chains of overindebtedness in the following nine links: “(1) *Debt liquidation* leads to *distress selling* and to (2) *contraction of deposit currency*, as bank loans are paid off, and to a slowing down of velocity of circulation. This contraction of deposits and of their velocity, precipitated by distress selling, causes (3) *a fall in the level of prices*, in other words, a swelling of the dollar. Assuming, as stated above, that this fall in prices is not interfered with by deflation or otherwise, there must be (4) *a still greater fall in the net worths of business*, precipitating bankruptcies and (5) *a like fall in profits*, which in a capitalistic, that is, a private-profit society, leads the concerns which are running at a loss to make (6) *a reduction in output, in trade and in employment of labor*. These losses, bankruptcies, and unemployment, lead to (7) *pessimism and a loss of confidence*, which in turn, leads to (8) *hoarding and a slowdown in the velocity of circulation*. The above eight changes cause (9) *complicated disturbances in interest rates*, in particular, a fall in the nominal, or money, rates and a rise in the real, or commodity, interest rates.”
5. Fisher’s “creed” as to the propagation of debt deflation and its aftermath during the Great Depression is empirically and theoretically replicated by Bernanke (1983).
6. “External finance premium” is defined as the difference between the cost of funds raised externally and the opportunity of funds internal to the firm (Bernanke et al. 1999).
7. The credit channel model with financial market imperfections in the sense of asymmetric information is analyzed from a different angle by Greenwald and Stiglitz (1993). Unlike Bernanke and Gertler (1989), who put more emphasis on lenders’ risk-hedging behaviors against firms’ delinquencies, Greenwald and Stiglitz focus on firms’ perceptions of

- the risks of changes in their own net worth position, which can have potentially large effects on their willingness to produce.
8. The two-way feedback between borrowing limits and the price of assets in the context of the relevance of financial structure of firms and business cycles is discussed earlier in Shleifer and Vishny (1992). They argue that when a financially distressed firm needs to sell assets, its industry peers that are natural purchasers are likely to be experiencing problems themselves, leading to asset sales at prices below the value in best use. The resulting fall in asset prices exacerbates the firm's financial distress by lowering the debt capacity of all firms in the industry. This is an advanced argument relative to Bernanke and Gertler (1989) in the sense that Shleifer and Vishny explicitly consider the price of tradable assets, but its incorporation has limited implication for static effects, ignoring the more powerful dynamic multiplier process and the crucial interplay between amplification and persistence.
  9. In order to understand the credit channel model by Bernanke and Gertler (1989), Kiyotaki and Moore (1997) use the analogy of a well-known predator-prey model where the debts of the credit-constrained firms are predators and their landholdings are prey. Namely, a rise in these firms' landholdings means that they have more net worth with which to borrow: The prey feed the predators. A high level of debt erodes the firms' available funds and curtails their investment in land: The predators kill off the prey. Kiyotaki and Moore's model, however, is richer in that it has, in addition to the debts and landholdings, a third variable—the price of land, which is forward looking and causes the economy to react much more to a shock.
  10. For a more comprehensive general equilibrium model of the credit channel model including the banking sector, financial regulator, assets with secondary markets, and so on, refer to Tsomocos (2003).
  11. "Net worth of borrowers" is defined as the borrowers' liquid assets plus the collateral value of illiquid assets less outstanding obligations (Bernanke et al. 1999).
  12. Credit supply shortages due to monetary shocks, capital adequacy shocks, and preference shocks are often called a credit crunch, capital crunch, and market credit crunch, respectively (Hall 2001).
  13. See Cochrane (1995) for detailed discussions on shocks.
  14. Three equations come from the regression and the remaining equation comes from the long-run restriction. The multivariate VAR as in King et al. (1991) and Rotemberg and Woodford (1996) with the long-run restriction of the same kind used this paper, however, assumes and identifies the permanent shock only. The transitory shocks could not be identified without further assumptions on the nature of the shocks.
  15. The empirical work is not pursued to scrutinize the direct implications of the credit channel model because it does not contain any informa-

- tion on the corporate finance structure. These implications will be assessed with micro firm-level data below. Here the purpose is to examine the dynamic interaction between the real side of an economy and the credit markets in the context of macro aggregate risks.
16. In Korea, the Government Treasury Bond (GTB) yield data was available only after 1995, and they did not reflect on market supply and demand until the outbreak of financial crisis due to the feature of compulsory underwriting practices by banks. That is to say, the appreciated price of GTB over the market price was treated as a quasi-tax. Thus GTB had not functioned as a benchmark risk-free bond nor reflected on the market conditions.
  17. The lag used in the regression of (3.1) is six. Therefore, the first six observations of the shocks are not measured.
  18. Of course, there exist a number of endogenous factors that caused the 1997 crisis (Claessens 2003), but this empirical model assumes shocks to be exogenously given.
  19. The data used in this subsection are described in the appendix.
  20. That is, the high correlation between the large firms' borrowing costs and real GDP growth rate has a reverse causality relationship.
  21. Freixas et al. (1999) model interregional financial connections for the premise that depositors face uncertainty about the location where they need to consume. The financial connections arise, in contrast, in Allen and Gale as a form of insurance: When liquidity preference shocks are imperfectly correlated across regions, cross-holdings of deposits by banks redistribute the liquidity in the economy. Then these links expose the system to the possibility that a small liquidity shock in one location will spread to the rest of the economy.
  22. A similar observation is found in the UK banks by Pain (2003).
  23. Davis (1993) measured the determinants of the loan loss provisions. He found that a sustained 1 percent fall in the GDP growth raises the long-run rate of provisioning by 14 percent; a 1 percent rise in the level of the bankruptcy rate raises provisioning by 1.7 percent; a 1 percent rise in corporate capital gearing (= gross debt/capital stock) raises provisioning by 0.73 percent; and a 1 percent rise in real rates from an initial level of 4 percent raises provisioning by 8 percent. Gonzalez-Hermosillo (1999) stressed the importance of the aggregate risks: Banks do not fail because they have a large portion of troubled loans; they fail because of their earlier investment decision whose outcomes may be also influenced by changed economic conditions. A high level of non-performing loans is the result of these same fundamental causes.

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## **11. Financial Supervision and Crisis Management: United States Experience and Lessons for Emerging Market Economies**

James R. Barth, Lawrence Goldberg, Daniel E. Nolle, and Glenn Yago

### **Introduction**

Economic history records numerous instances of financial crises, and although a body of knowledge has been developed identifying causes and responses to financial crises, the hard lessons that emerge from them have, from time-to-time, had to be relearned. Recently—over the past quarter of a century or so—there have been numerous incidences of financial crises in all parts of the world. In particular, since the late 1970s, there have been over a hundred instances of banking crises in ninety-three countries (Caprio and Klingebiel 2003).

What lessons for effective supervision and crisis management can be learned from previous experiences with financial crises, especially as those lessons might apply to emerging market economies in the midst of constructing modern financial systems? This paper focuses on the United States banking crisis of the late 1980s and early 1990s and its aftermath in addressing that question. Our approach is to consider first the nature of banking prior to the crisis, anchoring that discussion in a historical look at changes in banking system structure and the passage of banking industry legislation that had a major impact on the banking system. Subsequent to this crisis, the banking industry changed profoundly and rapidly, so the second part of our tack is to delineate the nature of those changes, particularly in comparison to the precrisis character of the United States banking system. In particular, we note the decline in the role of banks in firms' external financing and the rise in noninterest-generating activities; the blurring of distinctions or "functional silos" between banks and other depository institutions and between banking companies and other financial intermediaries; the growing complexity of banking organizations, both in a corporate hierarchy sense and with respect to the range of activities in which they can engage; and the more intense globalization of banking.

The remainder of the paper is organized as follows. The next section briefly discusses the evolving structure of banking in the United States. This is followed by an examination of the banking crisis of the late 1980s and early 1990s. The fourth section then considers the postcrisis developments, while section five assesses the lessons for emerging markets. The last section contains a summary and conclusions.



## Evolving Structure of Banking in the United States

It is necessary to understand the history of banking in the United States in order to understand the relationship between financial supervision and the management of crises. This section reviews the major eras in United States banking history, noting the enactment of key legislation and the establishment of key regulatory and supervisory entities. We emphasize the extent to which these developments were reactions to banking crises. We also discuss how some of the changes were intended to improve the competitive situation and others were meant to close loopholes in the law.

**Table 11.1.** Changing composition of the U.S. financial system: Financial intermediaries and capital markets (US\$ billion)

	Financial intermediaries	Equity market capitalization <sup>d</sup>	Bonds outstanding				Total financial system assets
			Total	government	local	Corporate	
1860	1	N/A	0.1	0.1	N/A	N/A	1
1880	5	6	6	2	1	3	17
1900	15	14	8	1	2 <sup>a</sup>	5	37
1929	110	187	76	16	13	47	373
1933	90	33 <sup>b</sup>	89	24	17	48	212
1945	247	88 <sup>c</sup>	290	251	12	27	625
1955	424	235 <sup>c</sup>	335	228	46	61	994
1965	921	568 <sup>c</sup>	481	257	100	123	1,970
1975	2,136	714 <sup>c</sup>	994	435	223	336	3,845
1985	6,603	2,325	3,309	1,587	860	863	12,237
1995	19,063	6,858	7,809	3,609	1,268	2,932	33,730
2000	31,519	15,104	10,159	3,610	1,481	5,068	56,782
2003	35,953	15,239	12,748	4,008	1,899	6,840	63,940

*Notes:* a. 1902 data; b. Data for New York Stock Exchange (NYSE) only; c. Data for NYSE and American Stock Exchange (AMEX).

*Sources:* d.1880–1929, Goldsmith (1985); 1933–1975, global financial data; 1985, *Emerging Stock Markets Factbook*, International Finance Corporation (IFC); 1995–2000, *Global Stock Markets Factbook*, Standard & Poor's; 2003, global financial data and New York Stock Exchange; *Historical Statistics of the United States, Colonial Times to 1957*, U.S. Bureau of the Census; *Flow of Funds Accounts of the United States*, Board of Governors of the Federal Reserve System.; and Barth and Regalia (1988).

We examine the history of the other major depository institutions, since they are so closely related to commercial banks and since the major crisis discussed in this paper involves primarily the savings and loan industry. Finally, we describe the major changes in the structure and activities of banks, supplemented with data whenever possible. Despite the diminution of the relative importance of banks in the financial system, they nevertheless remain special.

### History of Banking and Financial Institution Regulation

In order to understand the operation of financial institutions and to be able to analyze the recent developments at financial institutions, it is important to understand the early history of depository financial institutions. Figure 11.1 contains a time sequence of the major events, Tables 11.1 and 11.2

**Table 11.2.** Financial intermediaries in the U.S.: Increasing competition for banks (percent of total financial intermediary assets)

	Commercial banks	Savings & loans associations	Mutual savings banks	Credit unions	Life insurance companies	Other institutions <sup>a</sup>	Total financial intermediaries assets (US\$ billion)
1860	71	0	18	0	2	9	1
1880	61	2	21	0	9	7	5
1900	66	3	16	0	12	3	15
1929	60	7	9	— <sup>b</sup>	16	8	110
1933	51	7	12	—	23	7	90
1945	65	3	7	1	18	6	247
1955	44	9	8	1	21	17	424
1965	36	14	6	1	17	26	921
1975	35	16	6	2	13	28	2,136
1985	30	16		3	2	12	376,603
1995	24	5 <sup>c</sup>		2	11	58	19,063
2000	21	4 <sup>c</sup>		1	10	64	31,519
2003	22	4 <sup>c</sup>		2	11	61	35,953

*Notes:* a- Includes such financial intermediaries as private pension funds, state and local government retirement funds, finance companies, other insurance companies, and mutual funds. b- A dash indicates less than 1. c. Includes both savings & loans associations and mutual savings banks.

*Sources:* Goldsmith (1958); *Flow of Funds Accounts of the United States*, Board of Governors of the Federal Reserve System.

show the changing composition of the financial system, and Appendix 1 describes the major depository financial institution legislation. Institutions and markets develop in response to economic forces and thus it is important to understand how institutions evolve in response to the demand for particular functions or services. Though there are similarities across countries, the American financial system has developed in a unique fashion because of specific characteristics of the United States. Unlike most other countries, the United States started as a confederation of constituent states. The lack of a traditional class order and the presence of many different ethnic groups have also affected the development of the financial system. These factors have led to a dual regulatory system, with both the states and the central government having regulatory responsibilities, and they have also led to geographic restraints on banks. The vast geographic expanse of the United States and the westward settlement pattern of the country have also affected the development of financial institutions and markets.

Banking developed in the United States in a similar fashion to how it developed in many other countries. As the economic demand for indigenous independent banks in the United States arose, individuals started commercial banking organizations. At first, the banking needs of the American colonists were met by British banks. Most capital was supplied by the mother country. There was a need for purchasing power in the new growing economy that needed to be transferred from the older, wealthier economy of England. Trade with England played a very important economic role.

Prior to independence from England there were severe impediments to the development of independent banks in the colonies. The economy was 90 percent agricultural, and most of the transactions were barter transactions. There was considerable public hostility toward bankers. There were, however, some types of financial intermediaries around. Land banks issued money against mortgages on land, thus giving liquidity to land. In an era when the economy was primarily agricultural, the most obvious source of security for loans was land. However, despite the secured nature of their loans, most of these banks ended disastrously (see Blyn 1981:35).

Some merchants increasingly acted as intermediaries between British exporters and bankers and American retailers in the areas of foreign exchange and long-term credit. Eventually these merchants found that their banking activities came to dominate most of their business. Other merchants provided credit to their customers and soon found that the credit business had surpassed their retail business. These merchants performed banking functions but did not have commercial bank charters (see Blyn 1981:36).

The first official bank charter was granted to the Bank of North America in 1781 by the Continental Congress in order to provide financial sup-

Table 11.3. Number and assets of major depository financial institutions

Year	Commercial banks		Savings & loan associations		Savings banks		Credit unions	
	Number (US\$ million)	Assets	Number (US\$ million)	Assets	Number (US\$ million)	Assets	Number (US\$ million)	Assets
1800 <sup>a</sup>	n.a.	n.a.	0	0	0	0	0	0
1810	88	n.a.	0	0	0	0	0	0
1820	297	30	0	0	10	1 <sup>b</sup>	0	0
1830	293	34	0	0	36	7 <sup>b</sup>	0	0
1850	716	489	n.a.	n.a.	108	43 <sup>b</sup>	0	0
1860	1,284	851	n.a.	n.a.	278	149 <sup>b</sup>	0	0
1870	1,420	1,231	n.a.	n.a.	517	550 <sup>b</sup>	0	0
1880	2,726	2,517	n.a.	n.a.	629	882	0	0
1890	7,280	4,612	n.a.	n.a.	921	1,743	0	0
1900	12,427	9,059	5,356	571	626	2,328	0	0
1905	18,152	14,542	5,264	629	615	2,969	0	0
1910	24,514	19,324	5,869	932	637	3,598	n.a.	n.a.
1915	27,390	24,106	6,806	1,484	627	4,257	n.a.	n.a.
1920	30,291	47,509	8,633	2,520	618	5,586	n.a.	n.a.
1925	28,442	54,401	12,403	5,509	610	7,831	n.a.	n.a.
1930	23,679	64,125	11,777	8,829	594	10,164	1,244 <sup>c</sup>	34 <sup>c</sup>
1935	15,488	48,905	10,266	5,875	559	11,046	2,894	50
1940	14,534	67,804	7,521	5,733	542	11,925	9,224	249



**Table 11.3.** Number and assets of major depository financial institutions

Year	Commercial banks		Savings & loan associations		Savings banks		Credit unions	
	Number (US\$ million)	Assets	Number (US\$ million)	Assets	Number (US\$ million)	Assets	Number (US\$ million)	Assets
1940	14,534	67,804	7,521	5,733	542	11,925	9,224	249
1945	14,126	146,245	6,149	8,747	534	15,924	8,823	415
1950	14,146	156,914	5,992	16,893	530	22,252	10,586	1,005
1955	13,780	199,244	6,071	37,656	528	30,382	16,192	2,743
1960	13,503	243,274	5,320	71,476	516	39,598	20,094	5,651
1965	13,805	356,110	6,185	129,580	505	56,383	22,109	10,542
1970	13,690	534,932	5,669	176,183	497	76,373	23,687	17,872
1975	14,657	974,700	4,931	338,200	476	121,100	22,677	37,554
1980	14,870	1,543,500	4,613	629,800	460	166,600	21,465	68,974
1985	15,282	2,731,000	3,246	1,069,547	403	157,400	17,654	137,462
1990	12,347	3,389,490	2,815 <sup>e</sup>	1,259,178 <sup>e</sup>	— <sup>e</sup>	— <sup>e</sup>	14,549	216,874
1995	9,942	4,312,677	2,030 <sup>e</sup>	1,025,742 <sup>e</sup>	— <sup>e</sup>	— <sup>e</sup>	12,209	316,178
2000	8,315	6,244,298	1,589 <sup>e</sup>	1,217,338 <sup>e</sup>	— <sup>e</sup>	— <sup>e</sup>	10,684	449,799
2003	7,769	7,602,489	1,467 <sup>e</sup>	1,359,428 <sup>e</sup>	— <sup>e</sup>	— <sup>e</sup>	10,041 <sup>d</sup>	574,687 <sup>d</sup>

Notes: a. Data before 1975 are for year ending June 30. Data after 1975 are for year ending December 31.

b. Deposits rather than assets. c. Data in 1931. d. Data in 2002. e. Savings & loan associations and savings banks combined. n.a. = not available.

Sources: Federal Deposit Insurance Corporation; U.S. Department of Commerce, Bureau of the Census.

port for the war of independence. The Bank of New York, the Bank of Massachusetts, and the Bank of Maryland were subsequently chartered, so that by 1790 there were four commercial banks in the United States. Most of the banks chartered by the states in this period failed in relatively short periods of time.

After the Constitution had been ratified, Congress moved to establish the First Bank of the United States in 1791. It was a federally chartered bank that acted as a central bank and tried to promote a sound money and credit system. It acted as the fiscal agent of the U.S. Treasury and as the main depository for the country's gold and silver. The Bank of the United States also made loans to state banks with liquidity problems. It issued notes that served as circulating currency and it tried to promote local industry. Political opposition developed because the bank was considered to be an agent of the privileged classes, and in 1811 its charter was not renewed. The Second Bank of the United States was chartered in 1816 and was similar to the First Bank, though considerably larger. It too succumbed to similar political opposition in 1836 and was not rechartered (see Spong 1994:15). Consequently, by the 1830s the federal government was completely out of the bank chartering and regulation business. This activity was left entirely to the states until the Civil War. Examinations were infrequent and usually done only when insolvency was imminent. Bank regulation varied greatly by state.

In 1810 there were 88 commercial banks in the United States, and by 1820 there were 297 banks. The number expanded greatly to 716 by 1850, with an accompanying rapid expansion of bank assets, and by 1860 the number of banks had increased to 1,284 (Table 11.3).

Commercial banks did not provide a full range of services. They avoided long-term securities and mortgages and did not generally seek smaller time deposits. In order to fill this gap in the market, mutual savings banks were started in the early nineteenth century. Most observers acknowledge that the first mutual savings bank to be established in the United States was the Philadelphia Savings Fund Society in 1816. The primary purpose of these savings banks was to provide a savings outlet for workers, a function ignored by commercial banks. Though in their earlier years the savings banks invested in a variety of long-term assets, they later concentrated on home mortgages. Only in the deregulated atmosphere of the 1980s did some savings banks shift away from long-term mortgages as their primary assets. Federal chartering of savings banks has become possible only in recent years; they have been concentrated in the Northeast, where more states permitted chartering of these types of institutions.

Savings and loans (S&Ls) also started in the first half of the nineteenth century. The first S&L, formed in Philadelphia in 1831, was the Oxford Provident Building Association. These organizations were frequently cooperative savings and home-financing organizations. Thus they provid-

ed the services demanded by individuals that banks did not provide: savings accounts and mortgage financing. S&Ls have always been similar to mutual savings banks but surpassed them in importance fairly quickly (see Table 11.3). National chartering of S&Ls was permitted in the 1930s, but occurred in the case of the savings banks only in the late 1970s.

The final main type of depository institution, the credit union, began in the United States in the early twentieth century. The first credit union was chartered in 1909 in New Hampshire. It too started as a cooperative arrangement among individuals to provide financial services to members. Credit unions have always been nonprofit and thus have tax advantages over the other types of depository institutions. This has led to criticism of their status by small commercial banks who view credit unions as competitors. Since credit unions are frequently organized around places of employment, they usually have an informational advantage over other types of financial institutions in evaluating the creditworthiness of members who wish to borrow. The credit union also has the capability of ensuring loan repayment by taking payments directly from paychecks. Consequently, credit unions have generally been able to charge lower interest rates on loans. Credit unions have expanded in size and activities rapidly in recent decades, but they still remain far less important than commercial banks (see Table 11.3).

As discussed earlier, the federal government dropped out of the bank regulation business after its initial entry. The Civil War was a major crisis and created great demands for funds by the government to finance the war against the Southern states. Consequently, the National Currency and Bank Acts of 1863 and 1864 provided the impetus for a federal system of bank chartering and supervision. The Office of the Comptroller of Currency (OCC), a new department within the Treasury Department, was given authority to charter national banks. Currency issued by state banks, moreover, was subjected to a special tax as a result of the new acts. Currency issued by national banks had to be backed by United States government bonds and thus was superior to that issued by state-chartered banks. Currently it is not essential for the government to charter and regulate banks in order to raise funds for government expenditures since the government can borrow directly in the financial markets.

The creation of a national chartering agency led to the unique dual banking system in the United States. Prospective bankers have a choice of regulator and some have claimed that this has led to competition among regulators to have more banks under their regulatory control by offering greater regulatory laxity. In nearly every other country, there is only one source of bank charters. Peltzman (1965) finds that entry into banking was essentially unrestricted until the collapse of the banking system in the 1930s, which then led to entry controls. He argues that the legal restrictions on bank entry in the Banking Act of 1935 significantly reduced the

number of banks that might have been established since then. Though several studies have found regional differences in rates of return prior to 1915 even though there was free entry, Binder and Brown (1991) attribute these differences primarily to the bank return measures used in these early studies, and thus they conclude that banking markets were highly competitive during the free-entry period.

After the Civil War the banks and the financial system expanded rapidly. The United States, however, did not have a real central bank that could act in financial crises. In the late nineteenth and early twentieth centuries, the United States suffered numerous severe downturns in economic activity. These recessions were accompanied by panics, and the large commercial banks were usually called upon to rescue other banks in distress. The federal government did regulate many of the country's banks through the OCC, but many were regulated only by the states, and other central bank functions were not provided. The Panic of 1907, in particular, stimulated the search for a better scheme for promoting bank soundness and stability.

In 1913, the Federal Reserve System (the Fed) was established as the central bank. It was organized on a decentralized basis with twelve regional banks and a Board of Governors (the board) in Washington, D.C. The Fed was given regulatory powers over all national banks and those state chartered banks that elected membership in the Federal Reserve System. The new central bank controlled monetary policy and handled international transactions for the federal government. The secretary of the Treasury sat on the board, and the power of the New York Reserve Bank president was greater than that of the chairman of the Federal Reserve System.

In banking legislation enacted in 1933, the Federal Reserve System was reorganized. The agency was granted independence from the executive branch, and the power of the seven governors comprising the board—and particularly the chairman—was increased. Though the New York Reserve Bank was still the most important regional office and it retained certain functions, the board in Washington became dominant. The Open Market Committee to manage monetary policy was established and consists of the seven governors and five bank presidents on a rotating basis (the New York Bank president is always a member).

The change in the organization of the Fed was one of many important banking regulatory changes in the early years of the Roosevelt administration between 1933 and 1934 in response to the economic depression that was enveloping the country. The most important change was the establishment of deposit insurance through the Federal Deposit Insurance Corporation (FDIC) in order to maintain consumer confidence in the banking system, which had been shaken at the time. Banks were failing at an unprecedented pace. When a bank appeared to be in trouble, depositors would start a run on the bank in order to withdraw their uninsured

deposits, which were paid on a first-come-first-served basis so long as assets were available. The resulting liquidity problem would then sink many marginal institutions forced to sell assets at depressed prices. Deposit insurance provided confidence for individuals that they would not lose their deposits if a bank failed. The FDIC was established by the 1933 act and initially provided federal deposit insurance up to \$2,500 per deposit. The premium paid by banks was a flat rate that was unaffected by the degree or risk of the bank. This limit has been increased several times, and in 2004 it was \$100,000 per deposit.

Since all institutions paid the same insurance premium despite differences in their asset risk, perverse incentives were created for the depository institutions. Greater risk did not result in higher premiums, encouraging excessive risk taking; this has led to many problems that are discussed later. The introduction of variable deposit insurance premium rates to reflect differences in risk in the 1990s was intended to alter these incentives, but many argue that the current system is still inadequate to accomplish this goal.

The National Banking Act of 1933 is often called the Glass-Steagall Act, after the main congressional framers of the legislation. This nomenclature has generally referred to the provisions that have separated commercial banking from investment banking. The statute places restrictions on the permissible activities of both commercial and investment banks. Prior to passage of the act in 1933, the historic separation of the two industries had been dissolving, as banks—spurred by favorable rulings of the OCC—increasingly engaged in investment banking activities. Many observers connected this development with the rash of bank failures, even though evidence of such a connection has not been very convincing. The two banks that were most heavily involved in investment banking at the time, Citibank and Chase, were subjected to much criticism in congressional hearings. Recent evidence has indicated that commercial banks during this time period actually performed better than investment banks in underwritings. The search for scapegoats for the depression was most likely the driving force that led to the passage of the Glass-Steagall separation of commercial banking from investment banking. The stated purpose of the legislation was to ensure that banks acted in a more prudent manner. The restrictions were intended to protect the financial resources of commercial banks and to minimize conflicts of interest for commercial banks when giving investment advice. The underlying rationale of this separation came under increased scrutiny over time. The Fed in 1987 permitted selected large banks to underwrite securities, which they were not previously permitted to do, and in 1999 the legal restrictions were removed.

The final major financial regulatory restriction imposed in the 1930s was interest rate ceilings on deposits. These ceilings were imposed to protect institutions from excessive competition, but in fact they later had seri-

ous consequences on the ability of depository institutions to attract funds. Indeed, they played an important role in the S&L crisis, which is discussed extensively in the next section. The Fed was authorized to impose interest rate ceilings through Regulation Q in 1937. Payment of interest-on-demand deposits was prohibited and a mechanism for placing ceilings on interest paid on time and savings deposits was established. In 1966, interest rate ceilings were extended to thrift institutions (S&Ls, savings banks, and credit unions). In the early years of these restrictions, the market interest rate was below the ceiling rate so that the ceilings did not have any economic impact. With the high inflation rates of the 1970s and early 1980s, however, market rates rose far above the ceilings (even after they had been adjusted upward), and this led to substantial disintermediation for both banks and thrifts. Banks were able to obtain funds no longer available from deposits through liability management techniques, such as issuing commercial paper, Eurodollar deposits, borrowing on the federal funds market, and repurchase agreements. The interest rate ceilings stimulated the development of alternative investment vehicles for depositors, such as money market funds offered by nonbanking institutions competing with banks and other depository institutions. In order to counter the outflow of funds from the depository institutions, the federal regulators were forced to allow the establishment of new instruments offering market returns, the most important of these being the \$10,000 six-month certificate of deposit with an interest rate pegged to the six-month Treasury bill rate. Finally, in the Depository Institution Deregulations and Monetary Control Act (DIDMCA) in 1980, interest rate ceilings were phased out by 1986. Once again a measure enacted in the 1930s restricted the ability of banks to respond to market forces.

The laws passed in the 1930s were a reaction to the crisis at the time and provided the regulatory basis of the financial system until economic forces compelled the government to change the rules to bring them better in line with economic reality. However, there are several other pieces of legislation that need to be discussed before we get to the major changes in the regulatory environment that occurred in response to the crises of the 1980s.

Until the 1930s, the three types of thrift institutions were limited in expanding because they were permitted only to have state charters. This meant that these institutions could not operate in states that did not specifically charter that type of institution. This was remedied for S&Ls in 1933 and for credit unions in 1934. It was not permitted for savings banks until 1978, and thus the savings banks grew at a much slower pace than did the other two types of institutions.

**The Bank Holding Act of 1970**

The regulation of bank holding companies was changed in 1970 because banks had found ways to avoid regulation imposed by the Bank Holding Company Act of 1956. The earlier act defined a bank holding company (BHC) as a corporation controlling two or more banks, and it severely restricted the nonbanking activities of bank holding companies. In the late 1960s many of the nation's largest banks formed one-bank holding companies, and through the one BHC structure, which was not subject to regulation by the Fed, they expanded their activities into nonbanking areas. Another important advantage of the holding company format was the ability to raise funds through the issuance of commercial paper. In addition, a number of nonbanking firms controlled single banks. To this point in time, the main use of the BHC structure had been to avoid restrictive branching rules within states by approximating a branching system through a multibank holding company.

The 1970 act removed this loophole in the law and redefined the BHC as a corporation controlling one or more banks. The Fed was given responsibility for determining which nonbanking activities would be appropriate under the criterion of being closely related to banking. A framework was established for the determining relative benefits and costs of new activities and any acquisitions. All nonpermissible activities had to be divested by the end of 1980.

At first the Fed was very lenient in permitting new nonbanking activities. However, the failure of the Franklin National Bank in 1974 and problems for other large banks resulted in the Fed taking a more cautious approach. Almost all the large banks in recent years have been organized under bank holding companies. The holding company has proved valuable not only in avoiding branching restrictions and for engaging in nonbanking activities but also for enabling banks to raise funds by issuing holding company commercial paper. The holding company has facilitated nonbanking activity across state lines, and it was an important vehicle for overcoming interstate branching restrictions.

**The International Banking Act of 1978**

Banking has become an international industry, and no longer are banks confined to the borders of their home country. The total assets of U.S. branches abroad rose from \$24.3 billion in 1972 to \$735.3 billion in 2002. The presence of foreign banks in the United States is even larger, with total assets growing from \$28.3 billion in 1972 to \$1.1 trillion in 2002.

Because of the rapid growth of foreign banks in the United States, there was increased political pressure to restrict their growth. Domestic banks argued that foreign banks had several competitive advantages over them. Foreign banks could operate banking offices in more than one state and also were not subject to the nonbanking provisions of the Bank Hold-

ing Company Act. Legislators worried that restrictions placed on foreign banks in the United States could lead to retaliatory action against foreign branches of U.S. banks by other countries.

The International Banking Act of 1978 (IBA) adopted an approach whereby foreign banks would be treated in the same fashion as domestic banks—so-called national treatment. The passage of this act restricted foreign banks in a number of ways. As of July 1978, foreign banks could no longer establish offices outside their declared home state. However, those in existence prior to this date could be maintained. This provision thus reduced some of the advantage in terms of geographic scope that the foreign banks enjoyed but still left some advantage over domestic banks. The Fed was authorized to impose Federal Reserve requirements on agencies and branches of foreign banks and FDIC insurance was required for foreign banks taking retail deposits. Previously, foreign agencies (which are not permitted to accept deposits but can have credit balances that are similar to deposits) and foreign branches were free of most regulation and thus had a competitive advantage over domestic banks. Edge corporations are subsidiaries of domestic banks that can be located outside the home state of the bank but must engage in mostly foreign banking. They were created by the Edge Act of 1919 and named for Senator Walter Edge of New Jersey. The IBA broadened the powers of Edge corporations, which allowed them to compete more effectively with foreign agencies and branches and also permitted foreign banks to own Edge corporations. Finally, foreign banks with agencies and branches in the United States were made subject to the nonbanking restrictions of the Bank Holding Company Act. This again was an attempt to equalize competition between domestic and foreign banks.

### **The Depository Institutions Deregulation and Monetary Control Act of 1980**

In 1980, Congress passed the most important piece of banking legislation since the 1930s. The DIDMCA makes many fundamental changes in the banking system. Since some of the most important aspects of the law were phased in over several years, the full impact of this law was not felt immediately. Here we review the main provisions of the act and their implications.

The act authorized all depository institutions throughout the United States to offer negotiable orders of withdrawal (NOW) accounts. These depository accounts are essentially demand deposits that pay interest and thus circumvent the 1933 restriction on interest-on-demand deposits. They were first introduced by a mutual savings bank in Massachusetts in 1972 and gradually spread to all of New England, New York, and New Jersey and to commercial banks and savings and loan associations as well as mutual savings banks. Originally, commercial banks had a monopoly on



checking accounts. NOW accounts enabled thrift institutions to compete actively with banks for these deposits throughout the country and were one of the several developments that were removing the differences among depository institutions. NOW accounts are more costly to banks than checking accounts, but banks have instituted charges per month and per check to compensate, though free accounts are available if a minimum level of deposits is maintained. Charges vary geographically and depend on competitive conditions in local markets.

The act phased out deposit interest rate ceilings over a six-year period, eliminated state usury ceilings on mortgages (unless a state adopted a new ceiling before April 1983), and prohibited state usury ceilings for business and agricultural loans above \$25,000. These changes recognized what had become increasingly obvious to most observers—that interest rate ceilings on deposits restrict the flow of deposits to banks and thrift institutions and that interest rate ceilings on loans limit the profitability of lending activity and result in reduced availability of credit. The flow of funds out of depository institutions to other borrowers is called disintermediation. In highly inflationary times when market rates exceeded ceiling rates by substantial amounts, legislators had finally recognized that economic reality had to take precedence over the desire to keep the (apparent) cost of funds to depository institutions low and to keep the borrowing cost to consumers, in particular, at low rates.

All federal deposit insurance as a result of DIDMCA was increased to \$100,000. This increased the safety of deposits since it recognized the increase in size of individual accounts, much of which was largely due to inflation. Also, all transaction accounts at depository institutions were subjected to reserve requirements set by the Federal Reserve System. These provisions were phased in over an eight-year period. Prior to this change only banks that were members of the Federal Reserve System (all national banks and state chartered banks that elected membership) were subject to the reserve requirements of the Fed. Nonmember banks were subject to the reserve requirements of the respective states, which were more lenient in that all states permitted reserves to be held in demand deposits at other banks (these deposits serve as payment for correspondent bank services), and many states permitted reserves to be held in interest bearing U.S. and municipal securities. In contrast, the Fed permits reserves to be held only in nonearning deposits at the Fed and in cash. Because of reserve requirements, membership at the Fed had declined, and the Fed asserted that this affected its ability to conduct monetary policy and was also inequitable for member banks. As the changes were phased in, costs were imposed on nonmember banks and other depository institutions insofar as earning assets had to be converted to nonearning status to meet the Fed's reserve requirements. To alleviate the costs imposed, all depository institutions were provided access to the Fed's discount or borrowing window.

The act, moreover, required the Fed to establish a system of fees for its services instead of providing them free as had been previously done. This, along with a decrease in the level of required reserves, greatly altered the operating cost structure for banks with respect to the central banking system.

The final major change instituted by DIDMCA involved expansion of the powers of thrift institutions. Federal credit unions were authorized to make residential real estate loans and federal S&Ls were given expanded investment authority and greater lending flexibility. The S&Ls were also allowed to issue credit cards and were given trust powers. These provisions enabled thrift institutions to compete more effectively with banks and also alleviated some portfolio problems they had faced because of the restrictions on their permissible activities. The Garn-St. Germain Act of 1982 extended the initiatives of DIDMCA. The asset powers of both S&Ls and savings banks were expanded further. These new laws in the early 1980s moved the United States closer to a time when all financial institutions could perform all financial activities and when distinctions among types of financial institutions could become meaningless. However, these activity relaxations enabled many thrifts to engage in riskier activities and thereby contributed to the S&L crisis, which will be addressed in the next section.

### **Geographic Coverage**

American banks, unlike banks in most other countries, have traditionally been limited as to where they can establish offices. Banks can obtain national bank charters from the OCC or state bank charters from the respective state banking supervisors. Each state specifies the branching restrictions for banks in that state. Originally, when the establishment of national banks was allowed by the National Currency Act in 1863, they could not have any branches. In 1863 this might not have been that important, but with improvements in transportation, communication, and technology, it became increasingly important for banks to be able to expand geographically. The McFadden Act of 1927 and its modification in the National Banking Act of 1933 allowed national banks to follow the branching rules of the state in which the national bank is located. Branching across state lines was not permitted, however. Prior to passage of the Bank Holding Company Act of 1956, banking organizations could circumvent interstate restrictions through multibank holding company arrangements across state boundaries. This act through a grandfather clause permitted those bank holding companies with multistate operations to maintain their affiliates but prohibited any new expansion across state lines. Market forces have induced banks to circumvent the rules and put pressure on lawmakers to relieve branching restrictions both within states and across state lines.

Retail bank services have traditionally been locally oriented. Individuals place deposits in local institutions because of convenience and because frequently only local checks are honored by merchants. Individuals borrow from local institutions since these institutions have the least cost in assessing and monitoring credit risk of the customers in close proximity. Small businesses, too, are generally limited to borrowing locally, but larger businesses have greater geographic access to funds. In fact, the very largest corporations can borrow both on a national basis and on an international basis.

Banking rules with respect to geographic coverage of banks have conformed with the local nature of much of banking. Many of the rules have been constructed so as to protect local institutions from competition from larger institutions. By insuring the financial viability of these locally oriented institutions, individuals and small businesses have presumably been provided with institutions devoted to their needs. The most important rules in this context have been restrictive branching rules. Bank charters have been confined to individual states. Even if a bank obtains a national charter it must follow the branching rules of its state, which until recently meant that, like all state banks, it could only open full banking offices within the state. In addition, branching activity has been severely restricted within states. Some states adopted unit banking rules that permit only one office per bank. Other states limited banks to branching within prescribed geographic areas, such as within a single county. Finally, some states allowed banks to branch throughout the state and thus have been the least protective of the small locally owned bank. Though we have three general types of rules for bank branching, the rules have varied significantly among the states within the three general groupings.

Technology, though, has not stood still. Recent years have witnessed dramatic changes in transportation and communication. It is easier and less expensive to travel. Many people commute long distances to their places of employment. This means that these individuals, at the very least, have access to banking services in diverse places. To varying degrees, many other individuals and small businesses have greater access to a wider selection of financial services. Developments in communication also have increased access to financial services. Long-distance telephone service is considerably less costly than it was in the past. The fax has allowed instantaneous transmission of documents. Even though it can be argued that the government postal service has deteriorated, next-day delivery through private companies has flourished. Electronic mail has infiltrated all lines of business and despite its many problems with viruses and spam has changed the nature of business communication. All of these developments facilitate provision of financial services over considerable distances. Financial institutions find it easier to provide services to nonlocal customers. For example, customers can transact all their business with money

market funds by phone and mail, both snail and electronic, without ever having to be physically present in the money market fund's office. As these changes have altered the economies of the financial services industry, nonbank and bank financial institutions have altered their operations and, in particular, the scope of their geographic coverage.

As changes in transportation and communication have increased the desirability of geographic expansion for financial institutions, some types of deliverers of financial services have been able to expand geographically without being impeded by government restrictions. For example, securities firms can expand without restriction within states and across state lines to the extent that the firms desire expansion. Merrill Lynch has offices throughout the country, as do several of its large competitors. These firms provide many similar services to those provided by banks. However, commercial banks had to follow the rules that prohibited geographic expansion across state lines and sometimes within states. This is unfair competition, and the large banks were forced to try to get around the rules so that they could compete equitably with competitors not subject to the restrictive rules applied to the banking industry. It must be noted, though, that unlimited geographic expansion may not necessarily always be the optimal policy. Geographic expansion can lead to increased difficulty in controlling the operation of the company.

We now examine the actual rules faced by banks and the specific ways banks have attempted to circumvent these rules. We assess the importance and effectiveness of these efforts to expand. We then evaluate the evidence on the value of interstate banking.

Banks obtaining state charters are confined to operating within the state granting the charter. Chartering of national banks, as already noted, was first established by the National Currency and Bank Acts of 1863 and 1864. Since the currency issued by national banks had to be backed by U.S. government securities, this provided a convenient method for the North to finance the Civil War. These acts prohibited branching by nationally chartered banks. The McFadden Act of 1927 finally permitted national banks to branch within their home city if the state-chartered banks were allowed this level of branching. The Banking Act of 1933 equalized branching opportunities for national and state banks by permitting national banks to branch anywhere within the state that state-chartered banks were allowed to branch. It must be noted that prior to this period, branching ability was not especially important for banks because of the existing level of transportation and communication services. Since state banks were confined to individual states, national banks were also confined to individual states by these two laws.

There did exist a way prior to 1956 whereby banking organizations could circumvent restrictions on interstate operations of full banking offices. This was done through multibank holding companies. The holding

company would own separately chartered banks in different states. Since the holding company was not subject to any banking regulations, this arrangement was perfectly legal. Multibank holding companies first emerged in the late nineteenth century and were mainly used to avoid unit bank restrictions within states. As the holding companies expanded, concerns were raised about undue concentration of financial power. Consequently the Bank Holding Company Act of 1956, which was the first legislation to regulate bank holding companies, contained a section—3(d)—which became popularly known as the Douglas Amendment. This section prohibited any further acquisition or chartering of banks outside the home state unless expressly permitted by the state. Existing interstate banking organizations were permitted to retain their banks in different states. This is a grandfathering provision. Thus seven domestic bank holding companies and five foreign bank holding companies were allowed to operate interstate, while the remaining banks in the country were not allowed to own full banking operations in more than one state. In 1956, no states expressly permitted banks from other states to enter.

The changing financial marketplace has stimulated banks to try to circumvent interstate restrictions in order to compete effectively with non-bank financial organizations. Some of these efforts have involved full banking operations, while others have involved nonbanking activities across state lines through the holding company framework. The pressures of the marketplace have forced state and federal regulators to relax some restrictions so that banks could compete. We now provide a description of the main methods banks have used to expand their activities across state lines.

Besides the grandfathered domestic banking organizations, there have been three other ways by which full banking offices could be controlled on an interstate basis. Bank holding company designation requires at least 25 percent ownership. In order to avoid being subject to the restrictions of the Bank Holding Company Act, banking chains have been organized where ownership by parties was limited to less than 25 percent of the common stock. In this manner effective control of interstate organizations could be maintained, but the rules would technically not be violated. With the large number of failures of S&Ls and banks in the 1980s, the regulators were intent on maintaining the solvency of the deposit insurance funds. With banks and S&Ls confined to single states, in many cases the regulators could not find sufficient viable candidates to take over failed institutions and thus reduce the resolution cost. Consequently, in the early 1980s, interstate acquisition of failed banks and S&Ls was permitted, thus helping the insurance funds. This has been one of the most important ways in which the country's largest banks have been able to expand across the country. The third method relates to states passing laws expressly permitting out-

side entry. This will be discussed last since it is the forbearer of full interstate banking.

Foreign banks have provided another interesting exception to the rule. Prior to 1978, foreign banks were not subject to any interstate restrictions if individual states permitted their operation. Consequently, they could establish full-service offices (subsidiaries and branches) and restricted-service offices (agencies) in multiple states. Domestic banks complained about this competitive inequity and lobbied for passage of the IBA of 1978. This act equalized the treatment of foreign and domestic banks. Foreign banks would no longer be allowed to expand interstate with subsidiaries or branches, but they were allowed to keep their existing interstate networks. In addition, foreign banks can still establish agencies that do not accept deposits in other states, and they can also open representative offices without limitation.

There are numerous instances of banks maintaining limited service offices across state lines. These cases do not violate the formal interstate restrictions, but they do allow banks to get some of the geographic penetration that they feel is necessary for an effective competitive position. Banking Edge Act Corporations are established outside of the home state to engage in primarily international business. Authorized by the Edge Act of 1919, these limited service offices allow the large banks to have a presence in major trade centers outside of their home state in order to service international customers. The IBA allowed foreign banks to have Edge Act Corporations, thus equalizing their opportunities as compared to domestic banks. Foreign banks also can maintain limited service offices such as agencies across state lines.

In order to have lending sales representation in a local area without a large physical presence, banks can maintain loan production offices outside the home state. The Bank Holding Company Act defined banks as organizations that both had demand deposits and made commercial loans. Banks that wanted to circumvent interstate restrictions and financial organizations that were not permitted to operate commercial banks found an ingenious method around the rules. They established offices that either made commercial loans or accepted demand deposits—but did not do both activities. Technically, these organizations were not banks and thus not subject to interstate banking restrictions; they were referred to as “nonbank banks” because they still operated with a bank charter. After much debate and several interactions, this loophole was removed in 1987, but existing organizations were grandfathered. Finally, the Bank Holding Company Act of 1970 permitted holding companies to engage in nonbanking activities if they were closely related to banking and if they were approved by the Fed. These activities are not restricted geographically. Through the holding company, the largest banks have established offices

nationwide, particularly in activities such as mortgage banking, consumer finance, and insurance agencies.

Though the Douglas Amendment allowed states to pass laws permitting entry by out-of-state bank holding companies, no state showed interest until Maine passed a law in 1978. There was no entry into Maine and no action by other states until 1982, when both New York and Alaska passed laws permitting entry from out-of-state bank holding companies. Most states passed similar laws soon thereafter. Ultimately, the District of Columbia and all states except Hawaii enacted legislation permitting some type of interstate activity. The laws, however, varied greatly. Some states permitted nationwide entry without restrictions, while others required reciprocity for their banks from the home state of the entering BHC. A number of states combined into regional compacts, permitting entry only from states within the region. The most important of these compacts was the Southeast compact (see Barth et al. 1996).

The question arises, though, of whether interstate expansion will lead to the demise of smaller localized banks. Evidence does not indicate that this will happen. Goldberg and Hanweck (1988) evaluated the performance of the seven bank holding companies grandfathered by the Bank Holding Company Act of 1956. If interstate banking were to provide a competitive advantage, we would expect that the shares of state deposits of these organizations would increase relative to the shares of banks that could not operate on an interstate basis. The study found, however, that the shares of the seven grandfathered organization's banks decreased from 1960 to 1983 to a statistically significant degree. Clearly there was no competitive advantage to being interstate in this period. Whereas in 1960 there were differences in profitability and portfolio composition between the interstate banks and other banks, by 1983 these differences had disappeared. Though current conditions might provide additional advantages to having an interstate organization, it appears unlikely that greater interstate banking allowed in the early 1990s will lead to complete domination by big money center banks.

### **Long-Term Trends in U.S. Banking**

This section describes the major changes in the structure and activities of banks over as long a time period for which we were able to obtain data. Despite what may appear to be a diminution of the relative importance of banks in the financial system, banks nevertheless retain a special role. For this reason, regulation of the banking sector continues across countries.

Table 11.1 presents the changing composition of the U.S. financial system between financial intermediaries and the capital markets as represented by bonds and equities. Before 1900, data are more readily available for financial intermediaries and federal government debt. After 1900, there is a substantial growth in the assets of financial intermediaries, equities, and

various types of debt. The share of financial intermediaries in the total post-1900 appears to remain at a level in excess of 50 percent. The largest distributional change is across the debt categories. In the last decade, the growth of corporate debt has allowed it to surpass both federal government and state and local government debt.

There have been big changes within the distribution of assets across different types of financial intermediaries, as can be seen in Table 11.2. The share of commercial banks was as high as 71 percent in 1860, but it has decreased to 22 percent as of 2003. The major increase in share is in the other institutions category. Within this category, two types of institutions have increased their shares of assets dramatically in recent years: pension plans and mutual funds. Note that both of these types of institutions invest heavily in capital market instruments, such as stocks and bonds, and thus make it appear even more than is the case that the United States is shifting away from a bank-based to a capital markets-based financial system. The asset rankings of financial institutions in Table 11.2, however, underestimate the economic importance of the commercial banks. The large banks in particular are heavily engaged in off-balance-sheet activity, such as loan commitments and derivatives. These do not appear on the balance sheet but are quite important. The other major trend that can be discerned from the table is the rapid growth of S&Ls from 1945 to 1985, and then the rapid shrinking of their share of assets. From 1995 these institutions are combined with the savings banks since they differ very little. The reasons behind the shrinking of this sector are related to the subject of the major crisis discussed in the next section.

Table 11.3 shows the number and assets of the four main depository institutions since 1800. Commercial banks have always been the most important of these institutions. As mentioned earlier, S&Ls grew rapidly before the onset of their financial crisis; since the crisis they have not grown much, while commercial banks have increased their size substantially. Note also that since 1985 there has been a reduction in the number of all types of institutions. In the earlier part of this period, some of this reduction was largely due to the failure of institutions, but most of the reduction has been caused by mergers, many of which have been allowed by the liberalization of banking across state lines.

As competition has increased in the financial sector, banks have found that other types of institutions are getting into their business. Banks, in turn, have gone into the businesses of the other types of financial institutions. Some of the biggest and best commercial customers have gone directly to the capital markets for external financing and utilized investment bankers to facilitate this activity. Banks have increased their mortgage activity and have surpassed the thrift institutions as the largest mortgage lenders in the country. On the liability side, banks have shifted from transactions accounts to savings and time accounts, thus providing more



competition to the thrifts. Both S&Ls and savings banks reduced their commitments to mortgage lending and shifted assets to activities in direct competition with commercial banks. As the S&Ls faced a severe crisis, new regulations forced them to switch back to their traditional activities. It is these issues to which we now turn.

### **Banking Crisis of the Late 1980s and Early 1990s**

In the early 1980s, virtually all of the approximately four thousand S&Ls in the United States were losing money and insolvent on a market value basis. A decade later, nearly one-third of these institutions had been seized by the regulatory authorities and then either liquidated or sold. Most of the \$153 billion it cost to resolve these failed institutions came from taxpayers because the industry-supported federal insurance fund set up to protect depositors ran out of money.

This dire situation was the first major breakdown of the federal regulatory and deposit-insurance system that was established a half century earlier during the Great Depression. Ironically, the regulatory system was designed to promote a safe and sound savings and loan industry, but in fact it contributed to the collapse. The deposit-insurance system, moreover, was designed to ensure that any losses from failures would be borne by the industry-supported insurance fund, not taxpayers. Despite all assurances to the contrary, as the savings and loan crisis unfolded, that too did not happen. In early 1989 President Bush announced that taxpayer funds would be necessary to clean up the mess once and for all.

To our knowledge, no industry in the United States has ever faced such a deep and widespread crisis as the savings and loan industry did in the 1980s. At least one savings and loan failed in every state of our nation during this period. Nor have U.S. taxpayers ever been required to bear such a large sum as that eventually required to cover the losses flowing from the failure of so many firms in a single industry. Indeed, these losses were greater than those borne by depositors of failed savings and loans during the 1930s, before the establishment of a federal deposit-insurance system (Barth and Litan 1998).

The financial turmoil involved all the depository institutions. In the 1980s and early 1990s, 1,273 savings and loans with assets of \$640 billion failed, 1,569 commercial and savings banks with \$264 billion of assets failed, and 2,330 credit unions with \$4 billion of assets failed (Table 11.4). In the process, the FDIC—the deposit-insurance fund for banks—like its savings and loan counterpart, the Federal Savings and Loan Insurance Corporation (FSLIC), became insolvent. Fortunately for taxpayers, the FDIC's insolvency, unlike the case of the FSLIC, was short lived and remedied without direct taxpayer expenditures. Only the government insur-

Table 11.4. Selected information on major depository institutions

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Commercial banks																	
Number	14,435	14,408	14,446	14,460	14,483	14,407	14,199	13,703	13,123	12,709	12,343	11,921	11,462	10,958	10,451	9,940	9,528
Total assets (\$ billion)	1,856	2,029	2,194	2,342	2,509	2,731	2,941	3,000	3,131	3,299	3,389	3,431	3,506	3,706	4,011	4,313	4,578
Equity capital (\$ million)	107,599	118,241	128,698	140,459	154,103	169,118	182,144	180,651	196,545	204,823	218,616	231,699	263,403	296,491	312,088	349,578	375,295
Net income (\$ million)	14,010	14,722	14,844	14,931	15,502	17,977	17,418	2,803	24,812	15,575	15,991	17,935	31,987	43,036	44,624	48,749	52,390
Real estate loans to assets (%)	14.5	14.4	14.0	14.4	15.4	16.1	17.5	20.0	21.6	23.1	24.5	24.8	24.8	24.9	24.9	25.0	25.9
Commercial & industrial loans to assets (%)	21.1	22.4	23.0	22.4	22.5	21.2	20.4	19.7	19.2	18.8	18.2	16.3	15.3	14.5	14.7	15.3	15.5
Capital-to-asset ratio <0%																	
Number	1	2	5	14	11	29	71	76	104	82	35	32	23	2	0	0	0
Total assets (\$ billion)	*	*	*	1	*	1	4	10	21	23	15	2	8	*	0	0	0
Number of problem banks	NA	196	326	603	800	1,098	1,457	1,559	1,394	1,092	1,012	1,016	787	426	247	144	82
Assets of problem (\$ billion)	NA	NA	NA	NA	NA	NA	286	329	305	188	342	528	408	242	33	17	5
Resolutions																	
Number	10	10	42	48	80	120	145	203	221	207	169	127	122	41	13	6	5
Total assets (\$ million)	236	4,859	11,632	7,027	3,276	8,735	7,638	9,231	52,683	29,402	15,729	6,524	45,485	3,527	1,402	753	190
Estimated present-value cost (\$ million)	31	782	1,169	1,425	1,635	1,044	1,728	2,028	6,886	6,215	2,889	6,037	3,707	655	208	104	NA
Number of months rated 4 or 5 before closure	15	19	16	19	15	15	20	21	24	28	34	29	32	NA	NA	NA	NA

Table 11.4. Selected information on major depository institutions

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Credit unions																	
Number	17,350	16,960	16,424	15,804	15,180	15,033	14,687	14,335	13,878	13,371	12,860	12,960	12,594	12,317	11,991	11,687	11,392
Total assets (\$ billion)	61	65	70	82	93	120	148	162	175	184	198	227	258	277	290	307	327
Net income (\$ million)	314	677	714	747	1,131	1,303	1,366	1,464	1,659	1,653	1,691	2,066	3,364	3,743	3,438	3,377	3,530
Home mortgages to assets (%)	4.7	4.4	3.3	3.7	3.9	4.8	7.4	10.1	11.9	12.6	12.3	11.5	11.3	11.9	12.9	12.8	14.0
Capital-to-asset ratio <0%																	
Number	272	202	140	143	107	73	62	50	69	81	74	56	29	17	14	23	15
Total assets (\$ billion)	0.6	1.1	0.4	1.4	1.3	1.2	1.5	0.6	1.2	1.5	2.1	1.8	0.6	0.2	0.1	0.1	0.03
Number of problem credit unions	1,180	1,174	1,192	1,124	872	742	794	929	1,022	794	678	685	608	474	319	267	286
Assets of problem credit unions (\$ billion)	2.4	3.0	4.6	4.7	4.1	4.1	6.6	8.1	10.6	8.4	9.4	10.4	7.4	4.3	2.4	2.0	1.8
Resolutions																	
Number	239	349	327	253	130	94	94	88	85	114	164	130	114	71	33	26	19
Total shares (\$ million)	NA	136	156	102	208	47	116	327	297	285	339	267	223	265	255	545	19
Estimated present-value cost (\$ million)	33	44	79	55	20	12	29	52	33	74	49	77	107	20	36	13	2
Number of months rated 4 or 5 before closure	NA	NA	NA	69.6	80.8	64.9	55.4	44.1	30.1	24.0	17.5	NA	NA	NA	NA	NA	NA
Savings and loans																	
Number	3,983	3,751	3,287	3,146	3,136	3,246	3,220	3,147	2,949	2,616	2,359	2,110	1,871	1,669	1,543	1,437	1,334
Total rap assets (\$ billion)	604	640	686	814	978	1,070	1,164	1,251	1,352	1,187	1,029	895	807	775	774	771	769

Table 11.4. Selected information on major depository institutions

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Gaap capital (\$ billion)	32	27	20	25	27	34	39	34	46	52	52	53	56	58	58	62	61
Tangible capital (\$ billion)	32	25	4	4	3	9	15	9	23	NA	NA	42	52	54	55	57	56
Net income (\$ million)	781	(4,631)	(4,142)	1,945	1,022	3,728	131	(7,779)	(12,057)	(6,783)	(3,817)	1,195	5,103	4,917	4,275	5,360	4,750
Home mortgages to assets (%)	67	65	56	50	45	42	39	38	39	41	43	46	46	46	47	47	50
Capital-to-asset ratio <0%																	
Number	43	112	415	515	695	705	672	672	508	239	109	33	3	0	NA	NA	NA
Total assets (\$ billion)	0.4	29	220	234	336	335	324	336	283	192	89	41	4	0	NA	NA	NA
Number of problem savings and loans	330	499	744	689	748	679	637	574	NA	404	450	340	203	101	53	41	29
Assets of problem savings and loans (\$ billion)	43	104	182	189	265	270	249	217	NA	202	235	224	134	77	30	11	5
Resolutions																	
Number	11	28	76	54	27	36	51	47	222	327	213	144	59	9	2	2	1
Total assets (\$ million)	1,458	13,908	27,748	19,655	5,783	7,066	24,182	10,921	113,965	146,811	134,766	82,626	45,980	6,339	142	456	NA
Estimated present-value cost (\$ million)	167	1,018	1,213	1,024	833	1,025	3,605	4,509	52,203	51,140	21,473	10,823	4,741	532	14	66	NA
Number of months reporting tangible insolvent before closure	5.4	5.2	12.9	16.4	23.4	25.9	30.6	35.7	42	36	43	41	38	NA	NA	NA	NA

ance fund for credit unions—the National Credit Union Share Insurance Fund—remained solvent during this turbulent period.

Clearly, it is important to understand the causes and thus identify the lessons that are learned from all these costly failures. The time is particularly opportune given all the attention that the U.S. corporate governance system has been receiving in the past few years. Furthermore, in view of the fact that two-thirds of the member countries of the International Monetary Fund (IMF) have also suffered a banking crisis since 1980, such an assessment may enable one to better determine what future course governments should follow to promote the development, efficiency, and stability of banking systems in countries at all levels of income and in all parts of the world.

Depository institutions are heavily regulated by the government, which serves as an extremely important part of their governance system. Regulatory restrictions on depository institutions, however, can have both unintended and undesirable consequences. This was certainly the case for the S&L industry. For years the government used laws and regulations to further the goal of promoting home ownership. This strategy ultimately proved to be disastrous. Savings and loans were forced to borrow (take deposits) short term and to lend (make mortgages) long term. An abrupt shift in the term structure of interest rates, coupled with the impact of various laws and regulations, resulted in a dramatic reversal of performance at savings and loans. This set in motion the crisis, which may be traced through four distinct phases. During the first phase, from the late 1970s until about 1985, savings and loans were plagued by interest rate problems. The second phase was characterized by asset quality problems from 1985 through 1989. In 1990, the industry entered the third phase of the crisis, which entailed litigation over contractually agreed upon supervisory goodwill, as we explain below. The fourth and final phase continues even today, as the U.S. depository industry reinvents itself in the context of global capital markets.

We now discuss each of these phases in turn. First, we discuss the interest rate problems that initially devastated the industry. The resulting implosion of the industry marked the first phase of the crisis. Next, we show how the second phase of the crisis, characterized by significant institutional failures, was induced by asset quality problems brought on by expanded investment opportunities that were actually intended to transform the industry to prevent future interest rate problems. The third phase of the savings and loan crisis resulted from a breach of contract between the government and selected savings and loans, and it remains to be fully resolved. This is followed by a discussion of the lessons learned from the crisis and a final forward-looking lesson that can be applied to all depository institutions that essentially characterize the fourth phase of the savings and loan industry.

**Table 11.5. Evolution of federal savings and loan powers: 1933–1982 (enacted legislation is in bold italics; all else proposed)**

	Home Owners Loan Act 1933	Housing Act of 1959	Housing Act of 1961	Public Law 87-779 1962	Public Law 88-560 1964	Adminis- tration Fed. Savings Bank Bill 1965 <sup>1</sup>	Hunt Commission Study <sup>2</sup> 1972	Adminis- tration Proposed Financial Institution Act 1973 <sup>3</sup>	Fine Study: Legislation Passed Senate 1975 <sup>4</sup>	House Banking Committee Print 1976 <sup>5</sup>	Public Law 95-600 (1978)	Adminis- tration Proposal 1979 <sup>6</sup>	Depository Institutions Deregulation Act 1980	Adminis- tration Proposal 1981 <sup>7</sup>	Gam. St. Germain 1982
Home mortgage	Yes (\$20,000 loan limit)		Yes (15% of assets)	Yes (35,000 or 2% of assets) <sup>4</sup>	Yes (statutory loan limit dele.) <sup>5</sup>	Yes (statutory loan limit dele.) <sup>6</sup>	Yes (statutory loan limit dele.) <sup>7</sup>	Yes (statutory loan limit dele.) <sup>8</sup>	Yes (statutory loan limit dele.) <sup>9</sup>	Yes (statutory loan-to-value limit)	Yes (\$60,000 loan limit) <sup>10</sup>	Yes (statutory loan-to-value limit dele.) <sup>11</sup>	Yes (90% loan-to-value limit)	Yes (statutory loan-to-value limit dele.) <sup>12</sup>	Yes (statutory loan-to-value limit dele.)
Non-residential mortgages	Yes (15% of assets)		Yes (20% of assets)	Yes	Yes	Yes	Yes	Yes (30% of assets)	Yes (20% of assets)	Yes (20% of assets)	Yes (20% of assets)	Yes (no limit)	Yes (20% of assets)	Yes (no limit)	Yes (40% of assets)
Land develop- ment		Yes (loans up to 5% of assets)		Yes (loans)	Yes	Yes (loans)	Yes	Yes (loans)	Yes (loans)		Yes (6% of assets)				
Direct investment			Yes (6% of assets in bus. dev. corp)	Yes (2% of assets in urban renewal area)	Yes (up to 50% of capital)	Yes (for commu- nity develop- ment)	Yes (up to 3% of assets)	Yes (for commu- nity develop- ment)	Yes (for commu- nity develop- ment)	Yes (for commu- nity develop- ment)	Yes (2% of assets for community dev.)	Yes (2% of assets for community dev.)	Yes (2% of assets for community dev.; 5% bus. dev.)	Yes (in small bus. invest. corp.)	Yes (1% assets in small bus. invest. corp.)
Service corporation			Yes (1% of assets)	Yes (no limit)				Yes (1% of assets)	Yes (1% of assets)	Yes (1% of assets)	Yes (1% of assets)		Yes (8% of assets)	Yes (5% of assets)	
Con- struction loans					Yes	Yes	Yes	Yes	Yes	Yes (20% of assets)	Yes (6% of assets)		Yes (6% of assets)		

Corporate bonds	1980	Yes	Yes (up to 10% of assets)	Yes	Yes	Yes (10% of assets)	Yes (20% of assets <sup>5</sup> )	Yes (no limit)	Yes <sup>6</sup>
Education loans	1978	Yes (up to 5% of assets)	Yes (up to 3% of assets)	Yes (30% of assets)	Yes (20% of assets)	Yes (5% of assets)	Yes (5% of assets)	Yes (no limit)	
Consumer Loans	1980	Yes (up to \$5000)	Yes (up to 10% of assets)	Yes (30% of assets)	Yes (20% of assets)	Yes (10% of assets)	Yes (20% of assets)	Yes (no limit)	Yes (30% of assets)
Commercial loans	1982		Yes (up to 3% of assets)					Yes (no limit)	Yes <sup>7</sup> (10% of assets)
Leasing of personal property	1982								Yes (10% of assets)
Investment in commercial paper	1980		Yes (up to 3% of assets)	Yes (30% of assets)	Yes	Yes (10% of assets)	Yes (20% of assets)		
Credit cards	1980		Yes	Yes	Yes	Yes	Yes	Yes	Yes (10% of assets)

Source: Barth (1991).

Notes: 1. H.R. 14 and H.R. 11508, 89th Congress; 2. Report, Pres. Comm. On Fin. Structure and Reg. (1972); 3. S. 2591, 93rd Congress (1973); 4. S. 1267, 94th Congress (1975); 5. Financial Reform Act of 1976, 94th Congress (1976); 6. Depos. Inst. Dereg. Act, 96th Congress (1979); 7. S. 1703, 97th Congress (1981); 8. The bill also provided an 80% loan-to-value limit that could be waived by reg.; 9. The limit was raised to \$ 75 000 in 1979, Public Law 96-161; 10. By regulation, up to 1% unrated bonds; 11. While the Garn-St. Germain Act continues the placement of corporate bond investments in the 20% of assets basket, the Bank Board interpreted the act to permit up to 100% of assets in corporate bonds, with up to 1% in unrated bonds; 12. By regulation, the Bank Board interpreted this authority to include investment in unrated corporate bonds up to 10% of assets.

**Ticking Time Bomb**

Savings and loans were among the most heavily regulated firms in the country at the beginning of the 1980s (Table 11.5). They were forbidden by law to make adjustable-rate home mortgages because these were thought to expose home buyers to excessive mortgage payment risk. They could make no loan more 100 miles from their home office because this protected local institutions from competition from other savings and loans outside their immediate geographic area. Nor could savings and loans originate most loans that commercial banks could make, such as commercial real estate loans or loans to businesses, which limited competition between these two types of depository institutions. Savings and loans were not even allowed to offer their customers demand deposits until late in the twentieth century, largely due to opposition from commercial banks.

The range of activities in which S&Ls were allowed to engage was limited by law and regulation almost entirely to fixed-interest-rate home mortgage loans. At the same time, the mortgages were funded by relatively short-term deposits whose interest rates were also fixed by law and regulation (Regulation Q as discussed earlier). At the beginning of the 1980s, for example, savings and loans earned an average of 4 percent on home mortgages and paid 2 percent on deposits. Thus, for every \$100 of home loans they made, they received \$2 in net interest income. This was virtually their only source of revenue, out of which they paid salaries and other expenses, as well as taxes.

This traditional and apparently simple arrangement, however, was a ticking time bomb. Reacting to inflationary conditions in the late 1970s and early 1980s, the Fed changed its operating policy, focusing on monetary aggregates rather than interest rates. As a result of the subsequent monetary tightening, interest rates rose abruptly. The \$2 in net interest income earned by savings and loans vanished as they raised the interest rate paid on deposits, which was facilitated by the elimination of the ceiling on deposit rates for savings and loans in response to the new interest rate environment. If savings and loans didn't raise the rates paid, depositors would have withdrawn their deposits and put them into unregulated financial intermediaries such as mutual banks offering the higher interest rates. And, in fact, many depositors did just that. Almost every institution quickly lost money and, from an economic standpoint, became insolvent as the market value of its home mortgages fell below the value of the deposits funding them (Barth 1991; Brumbaugh 1988; Kane 1989).

Nevertheless, the removal of the deposit rate ceiling (Regulation Q) prevented the far more serious and widespread deposit withdrawals that would have forced savings and loans to sell their home mortgages at a loss in order to obtain liquidity. The government considered it better to permit savings and loans to suffer reduced earnings by raising the interest rate they had to pay to retain deposits than to suffer even larger losses from the

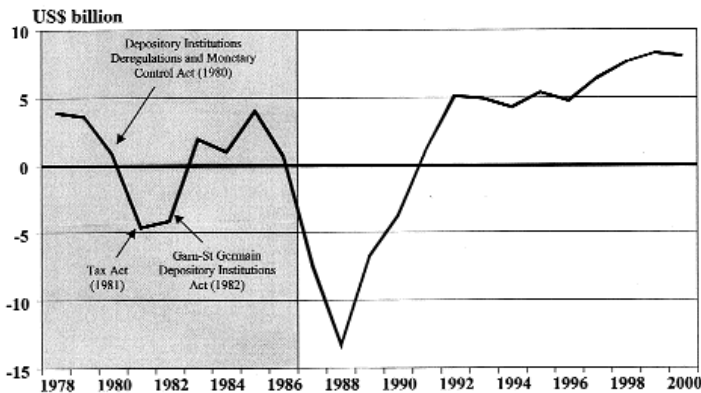


immediate sale of home mortgages. The latter course of action would have more rapidly depleted the minimum amount of regulatory capital that institutions were required to hold and thus more visibly exposed the depth of their problems. The overall governmental strategy being pursued at the time was designed to buy time for S&Ls until interest rates returned to more normal levels. The expectation—or perhaps more likely the hope—was that this reversal would occur sometime soon and restore profitability to the industry.

This example of the Fed reversing its policies typifies a common phenomenon in the heavily regulated and supervised depository industry. In general, government agencies must continually react to contain the disruptive impact on regulated industries from powerful market forces. In this particular case, the Fed reacted to contain significant inflationary pressures. And, as the savings and loan crisis demonstrates, such reactions can come with disastrous side effects. In this case the adverse effects were confined to a fairly narrow segment of the entire financial system and thus less disruptive than otherwise could have been the case. This is a benefit of having a diversified financial system, consisting of both financial intermediaries and capital markets.

**The Industry Implodes**

The first phase of the savings and loan crisis—roughly 1980–1985—was the result of laws and regulations that imposed too rigid a structure on institutions, permitting them to offer only fixed-rate, long-term home mortgages funded by deposits tied to short-term rates (Figure 11.2; also see Table 11.5). Although there were many other less risky ways to fund



Sources: Thrift Financial Reports; Milken Institute.

**Figure 11.2.** The savings and loan crisis: Interest rate risk phase (industry net income)

home mortgages in the late 1970s—from hedging interest-rate risk in the forward, futures, and options markets to offering adjustable-rate mortgages—savings and loans were largely forbidden to use these risk-reducing financial instruments. Only after the industry imploded did the government relent and allow their use.

When the savings and loan industry plunged precipitously into economic insolvency, the regulatory procedures already in place were straightforward enough. The regulatory authorities were supposed to seize S&Ls known to be insolvent and either liquidate or sell them, depending upon which alternative imposed the least cost on the deposit-insurance fund. One binding constraint, however, prevented them from resolving all the insolvencies in this manner. Compared to the breadth and depth of the insolvencies, the FSLIC's fund was totally insufficient to handle the problem. By the early 1980s, savings and loans throughout the country were insolvent by about \$110 billion, while the fund was reporting only \$6 billion in reserves (Barth 1991; Brumbaugh 1988; Kane 1989). The FSLIC itself, in other words, was insolvent on the basis of its contingent liabilities. Yet its auditor, the U.S. General Accounting Office (GAO), did not require this significant liability to be recorded and reported to the public until 1986 (Barth 1991).

As a result, the government—a major contributing culprit to the crisis by failing to fulfill its corporate governance responsibilities—was left to manage a huge bankruptcy proceeding in which it had a relatively simple but terrifying choice. It could either require taxpayers to pay approximately \$110 billion to resolve the insolvent savings and loans, or—with the hope that interest rates would fall and eliminate the immediate crisis—it could devise ways to postpone recognizing, if not actually avoiding, the embedded economic losses. Under the circumstances, it is not surprising that Congress chose the latter course, without public opposition from the White House or the FSLIC's auditor, the GAO.

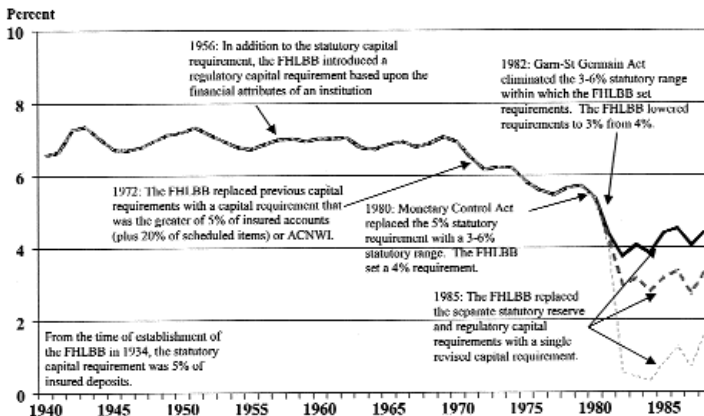
Congress belatedly enacted two major laws in reaction to the crisis: the DIDMCA in 1980 and the Garn-St. Germain Depository Institutions Act in 1982. The new laws, however, provided no additional funds to allow the regulators to resolve insolvent institutions. Instead, by lowering the minimum level of capital that a savings and loan was required to hold to satisfy regulatory requirements, the laws enabled institutions to report a healthier financial condition than otherwise, thereby giving regulators more time to devise a more permanent solution. The laws also lowered enforcement standards for those institutions near insolvency, and they gave the regulators authority to permit new accounting forms of regulatory capital. As a result, many savings and loans known to be insolvent, even on the basis of accounting standards already in use, were allowed to report otherwise, and some were even allowed to report a capital level that met the minimum requirement. Figure 11.3 shows the aggregate capital-to-

asset ratio for S&Ls on the basis of several alternative accounting measures. The amount of capital that institutions reported on the basis of regulatory accounting practices (RAP) exceeded that reported on the basis of generally accepted accounting principles (GAAP) and even far more than that reported on the basis of tangible accounting principles (TAP). This fact, however, did not prevent the government from subsequently suing major accounting firms for “overstating” the financial condition of savings and loans that failed.

In other words, Congress gave authority to the regulators to “paper” over the problem and to engage in regulatory forbearance. Since the Congress was unwilling to recapitalize the FSLIC with taxpayer dollars, it essentially forced regulators to buy time in the hope that insolvent savings and loans would return to profitability with an improved interest rate environment. It was hoped that when this happened, institutions would have availed themselves of the opportunity to find ways to improve profitability through the new and expanded powers provided for in the laws enacted in the early 1980s. The government strategy was to make savings and loans more like commercial banks, which were not nearly as hard hit by the interest rate shock at that time.

**Gambling for Resurrection**

Lower capital requirements—based largely on traditional accounting techniques that can grossly overstate the health of a financial institution—were allowed in the 1980 and 1982 federal legislation. It also allowed S&Ls to begin to diversify into commercial real estate loans, direct equity investments, commercial loans, and other kinds of loans that commercial banks



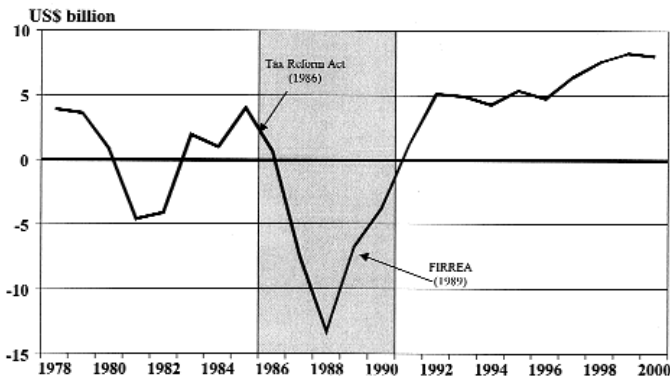
Source: Barth (1991).

**Figure 11.3.** Capital-to-asset ratio for savings and loans: 1940–1988

could already make. The savings and loans were also allowed to originate variable-rate home loans and to make loans nationwide. At roughly the same time, an increasing number of states granted broader lending and investment opportunities to their own state-chartered savings and loans, sometimes even far broader than the opportunities authorized for federally chartered institutions. All these developments gave rise to the second phase of the savings and loan crisis.

All these changes, albeit belatedly, allowed S&Ls to reduce their interest-rate risk. At the same time, the changes exposed savings and loans to new risks. Whereas few borrowers default on their home mortgages, defaults and associated losses on other types of loans and investments are typically much higher. Furthermore, while home mortgages are secured by real property, many of the loans that savings and loans began making were unsecured or backed by assets with difficult to determine market values. Nonetheless, combining interest-rate risk with credit risk spread over a wider geographical area can help provide greater opportunities for well-managed and well-capitalized institutions to choose an acceptable, overall balance of risk and return. Such a strategy provides potentially lower portfolio risk than with lending and investment powers restricted to a narrow range of activities.

After being granted broader powers, many savings and loans began making commercial real estate loans and investments, new activities in which they were relatively inexperienced. The Economic Recovery Tax Act of 1981 spurred much of this activity. As savings and loans moved into the commercial real estate market, commercial banks also increased their commercial real estate loan business, making the market still more competi-



Source: Thrift Financial Reports; Milken Institute.

**Figure 11.4.** The savings and loan crisis: Nontraditional asset quality phase (industry net income)

tive. This gave rise to the second phase of the crisis (Figure 11.4), earmarked by changes in the mix of assets held by savings and loans.

Perverse incentives were a by-product of the new, looser regulatory restrictions. Open but insolvent savings and loans had an incentive to take excessive risks, or “gamble for resurrection,” in part because the insurance fund would bear the losses if everything went terribly wrong. Yet the owners would reap the rewards if everything went well. The strength of these perverse incentives varied, however, and attempts to act upon them could potentially be kept in check by appropriate regulation and supervision by the state and federal authorities.

The new, lower capital requirements and broader opportunities to lend and invest allowed some savings and loan executives to take excessive risks. With federally insured deposits and the ability to attract more deposits by offering higher rates of interest, even deeply troubled savings and loans always had ready access to additional funds. This enabled them to avoid the discipline of the marketplace and the need to rely on internally generated profits.

Greater competition, inexperience, and perverse incentives—all of which were predictable and increasingly more obvious—led to problems. Even greater problems arose as the result of a series of unpredictable events in the middle to late 1980s. After savings and loans began to make considerable real estate loans and investments, regional recessions struck the country, reducing commercial real estate revenues and values. For instance, an unexpected plunge in the price of oil in 1986 contributed to a regional recession in the Southwest.

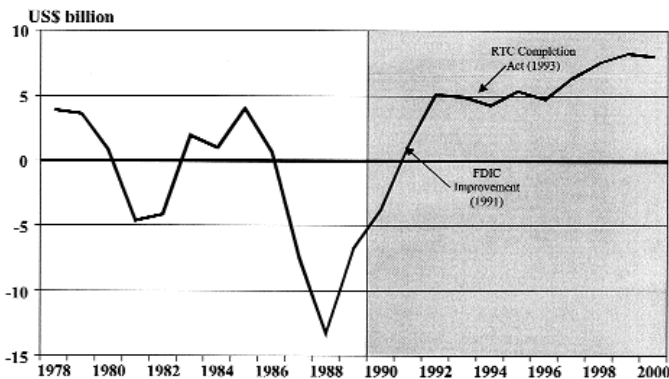
Another unpredictable event came from Capitol Hill. In an attempt to increase tax revenues, Congress surprisingly passed legislation—the Tax Reform Act of 1986—that more than eliminated the tax benefits to commercial real estate ownership it had conveyed only a few years earlier. Commercial real estate values fell dramatically as a result. This is one of the great ironies of the savings and loan debacle. In 1981 and 1982 Congress provided savings and loans with a lifeline, largely through greater opportunities to lend and invest in commercial real estate. Then in 1986 Congress cut the lifeline, leaving the savings and loans floundering, trying to find a life preserver to hang onto.

### **Breach of Contract Ups the Ante**

The third phase of the savings and loan crisis began with the enactment of the Financial Institutions Recovery, Reform, and Enforcement Act (FIRREA) in August of 1989 (Figures 11.4 and 11.5). In the process of imposing higher and more stringent capital requirements on savings and loans, the new law eliminated so-called supervisory goodwill as a component of regulatory capital. Although there was a phase-out period covering several years, more than a hundred institutions were immediately and adversely

affected. In response, these savings and loans sued the federal government for breach of contract. The basis for the suit was that this type of goodwill resulted from the supervisory-approved merger and acquisition of insolvent institutions by stronger institutions during the early 1980s. Purchase accounting techniques were used during these transactions in which the assets and liabilities of the weaker institutions were marked to market. The resulting negative “net-worth hole” then became supervisory goodwill, which was treated as an asset on the books of the surviving institution. The new and larger institution was then allowed to amortize this goodwill over a lengthy forty years.

The government strategy at the time was to use these types of transactions as another means to buy time for the industry to recover. It also was a way to conserve on the very limited resources of the FSLIC relative to the magnitude of the problem it faced in the early 1980s. But things changed unexpectedly for those savings and loans that had entered into these transactions. When FIRREA became law, supervisory goodwill was eliminated and with it a significant portion of the regulatory capital of these institutions, even forcing some of them into insolvency. The third phase of the crisis began in 1996 when the U.S. Supreme Court agreed that the government had indeed breached its earlier contract with such savings and loans when the provisions of FIRREA were enforced. The only issue remaining to be decided is the amount of the damages sustained by all the institutions when they could no longer count supervisory goodwill as regulatory capital. Although this issue was still being litigated in 2004, some estimates put the ultimate cost to be borne by taxpayers at \$20 billion. This is just one example of the way in which regulatory “flip-flops” can produce undesired consequences.



Sources: Thrift Financial Reports; Milken Institute.

**Figure 11.5.** The savings and loan crisis: Goodwill litigation phase (industry net income)

The present-value cost to resolve failed savings and loans from 1980 through 1995, as noted earlier, is approximately \$153 billion, with many of the institutions resolved by the Resolution Trust Corporation that had been set up for a temporary time for this explicit purpose. Two factors pushed the cost to this level. First, the government regulated the savings and loan industry in a way that made it fundamentally unstable, prone to huge losses if the short-term interest rates they paid on deposits rose above the rates they earned on all the home mortgages they were required to hold. Second, the government-provided system of deposit insurance not only failed to be patterned after private insurer practices, but it also provided inadequate reserves to resolve serious widespread savings and loan insolvencies (Barth et al. 1991). This led the government to try to solve the savings and loan crisis while leaving known insolvent institutions open. This in turn gave the open insolvent institutions the opportunity, after being granted broader powers, to engage in excessively risky activities, which, without adequately protecting taxpayers, ultimately led to higher resolution costs (Barth and Brumbaugh 1995; Barth et al. 1986).

### **A Separate Fate for Commercial Banks**

During the late 1980s and early 1990s, commercial banks received far less public attention than savings and loans did, despite the fact that bank failure resolutions cost \$37 billion and drove the FDIC into insolvency for two years. Commercial banks suffered from one of the same events that caused the savings and loan crisis: deterioration in asset quality from commercial real estate loans. The main reason S&Ls drew more attention was that their failures were more widespread and costly and that taxpayer money was required to clean up the mess. Yet the deterioration in the banking industry was so significant that without the savings and loan debacle, the banks' problems would have been front-page news. Furthermore, if a few large banks had failed, the problems could have been even greater than those of the savings and loans.

The financial deterioration in banks was the result of a series of difficulties, first involving loans to lesser developed countries in the early 1980s, then loans for highly leveraged transactions in the mid-1980s, and finally commercial real estate loans in the late 1980s. The process that led to this sequence of difficulties had many characteristics similar to the savings and loan debacle. Banks faced geographic banking restrictions that were not removed until the enactment of the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994. They were also restricted in their ability to engage in securities, insurance, and real estate activities. The enactment of the Gramm-Leach-Bliley Act of 1999 removed the final restrictions to allowing banks to engage in securities and insurance activities. However, banks' investments in nonfinancial firms and nonfinancial firms' investments in banks are now more restricted (Barth et al. 2000).

As deterioration in the banks' condition overwhelmed the FDIC's reserves, the banking regulatory authorities adopted some of the same forbearance techniques that had been used for the savings and loans. For instance, banks known to be insolvent were allowed to remain open in the hope that they would be able to recover and spare the deposit-insurance fund further losses. In addition, the traditional accounting techniques used by many banks allowed several very large banks to conceal deep losses.

Unlike the less fortunate S&Ls in the early 1980s, the banks benefited from unexpected interest-rate developments that more than compensated for the existing asset-quality problem. As a result of the 1990–1991 recession and the response of the Fed to inject more liquidity into the economy, short-term interest rates fell relative to long-term interest rates, allowing banks to restore profitability through greater net interest income. For several years, banks were able to earn substantial profits merely by purchasing Treasury securities with insured deposits rather than making more traditional business loans. Although Congress granted the depleted bank insurance fund the authority to borrow at government-subsidized rates, taxpayers were spared having to bear losses directly, as the overall condition of the banking industry improved.

The consequences of the changes in interest rates provide another great irony of the depository debacle of the 1980s and early 1990s. Whereas the Fed's policy change in the late 1970s precipitated the savings and loan debacle by contributing to raising short-term interest rates relative to long-term rates, its policy change during 1990–1991 protected the banks from potentially staggering losses by contributing to lowering short-term rates relative to long-term rates. The former policy change was motivated by a desire to combat inflationary forces, while the latter policy change was motivated by a desire to combat a recession.

The implications of these policy changes suggest that depositories are more vulnerable than other financial firms to broad government policy changes that may be at cross-purposes with narrower regulatory policies. For example, when the Fed raised interest rates in 1979, savings and loans suffered relatively more than other financial firms because they were hampered by government-imposed interest-rate ceilings and home loan lending restrictions. While these restrictions were beneficial to them when the inflation rate was low and stable, they became disastrous when the yield curve was inverted. Savings and loans could either raise the rates paid on deposits or face massive deposit withdrawals, as depositors would seek higher interest rates elsewhere. Although this was a costly strategy, it was considered far less costly than selling home mortgage loans and simply letting depositors take their funds elsewhere.

Depositories also appear more vulnerable than other firms when the government reverses policies. When Congress in 1986 reversed the tax law it had put in place just five years earlier, all financial firms that were



engaged in commercial real estate lending and investment suffered. Savings and loans suffered relatively more, however, because of congressional and regulatory encouragement in 1980 and 1982 to diversify into commercial real estate loans and investments. Commercial banks also suffered more heavily in the late second half of the 1980s, as they had increased their commercial real estate lending following other lending difficulties earlier in the decade.

As described above, in the 1980s and early 1990s, depositories failed in greater numbers and imposed greater losses than any other group of financial service firms despite being among the most heavily regulated firms in the nation. Their relatively dismal performance suggests that overly restrictive laws and regulations on depositories tend to inhibit their ability to adapt to technological and competitive changes in the global financial marketplace. Given this environment, S&Ls are now in the fourth phase of their rapid transformation in the past twenty-five years.

### **Summary and Conclusions**

In the 1980s, the United States experienced its worst depository institution problems since the Great Depression. The problems occurred despite an elaborate bank regulatory structure. The obvious conclusion is that the existing structure was not appropriate for fulfilling its assigned responsibilities. Although depository institutions are now in overall good financial condition and regulation has been significantly improved, there is still an ongoing debate over the exact way in which to “modernize” the legal definition of a bank. Perhaps the most important lesson from the recent past in the United States is that the most appropriate way for all countries to proceed is by viewing banks not in isolation, but instead as an integral part of a much larger financial system—a financial system that is increasingly global in nature and constantly evolving in response to new developments. Such a broader perspective suggests that relying less on extensive regulation and more on market discipline is the best way to proceed to provide for a good corporate governance system for banks (Barth et al. 2004).

### **Postcrisis Developments**

The U.S. banking industry emerged from the crisis of the late 1980s and early 1990s facing a significantly different environment than that in which it operated in the precrisis period. The environment had changed in part because of legislative and regulatory responses to the crisis. In particular, the greater emphasis on risk-based supervision, arising in part out of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991, has encouraged banks to measure and manage risk exposures more precisely (e.g., see Ferguson 2003 and Schuerman 2004). This, in turn, has boosted credit extension, especially as reflected in the increase in the ratio

of lending to the household sector relative to the business sector (Schuerman 2004). However, other major forces, resulting in significant changes in the structure and nature of banking, have emerged and/or accelerated during the postcrisis period. These include deregulation, the growing complexity of banking organizations, globalization, and technological change. Though these are not entirely discrete developments—indeed, it is impossible to draw sharp demarcation lines between them—for purposes of conceptual tractability, this section discusses each development separately.

### **Deregulation**

Two major legislative measures already briefly mentioned—the Riegle-Neal Interstate Banking and Branching Efficiency Act (Riegle-Neal) and the Gramm-Leach-Bliley Act—enacted in the postcrisis period share two major attributes. First, both have been broadly characterized as “ratifying” significant structural changes, or changes in the range of permissible activities in which banks engage, that had manifested themselves over a long period of time; and second, both nevertheless have stimulated further significant changes in banking system structure and activities (e.g., see DeYoung et al. 2004:96; Barth et al. 2000).

The Riegle-Neal Act, enacted on September 29, 1994, effectively repealed the McFadden Act. It was implemented in two phases. In the first phase, begun a year after the enactment date, bank holding companies (BHCs) were allowed to acquire a bank in any state—but not establish or acquire a branch—subject to several conditions.<sup>1</sup> The second phase of the implementation of Riegle-Neal began on June 1, 1997. As from that date, a BHC was free to consolidate its interstate banks into a branch network, and banks (both within a holding company and independent) were allowed to branch across state lines by acquiring another bank across state lines and turning the acquired bank into a branch. *De novo* branching (i.e., branching into a state other than by acquiring/merging with an existing bank) was also permissible as of June 1, 1997, provided state law specifically authorized this form of entry.

Riegle-Neal represented a significant legal step in dismantling long-standing geographic restrictions on banking. However, it is worthwhile pointing out that such restrictions had been undergoing a long-term process of erosion on a state-by-state, piecemeal basis. Some states had enacted legislation to allow interstate banking via merger, provided the acquiring bank’s home state allowed similar access to the state being entered. Such “national reciprocity” had a more limited counterpart in “regional compacts,” which provided for bank acquisitions by out-of-state banks, but only from other states within the compact. A few states even had “national, no reciprocity” interstate banking provision (i.e., banks from anywhere else in the country could enter the state, whether or not the

home state of the entering (via merger) bank had reciprocating legislation). Hence, as Figure 11.6 shows, as Riegle-Neal was being enacted only one state—Hawaii—completely prohibited interstate expansion.

Nevertheless, subsequent to the enactment of Riegle-Neal there has been a big increase in merger activity, much of it influenced by the act. Indeed, as DeYoung et al. (2004:96) point out, the immediate post-Riegle-Neal enactment period saw the “highest-ever 5-year run of bank mergers in United States history, in terms of both the number and the value of the banks acquired” (see also Berger et al. 2004 forthcoming; De Nicolo et al. 2003:6). Krainer and Lopez (2003) and Schuerman (2004) suggest that much of this merger activity was motivated in part by the desire to increase geographic risk diversification by spreading operations across states and, presumably, across banking markets. Morgan and Samolyk (2003) find empirical support for this hypothesis.

Like Riegle-Neal, the Gramm-Leach-Bliley Act (GLBA) was a capstone to a decades-long process to counter restrictive laws. Enacted in November 1999, GLBA widened the range of activities in which banks and their holding companies can engage. In so doing, GLBA repealed significant parts of the Glass-Steagall Act separating commercial banking from the securities business, as well as parts of the Bank Holding Company Act of 1956 separating commercial banking from the insurance business.<sup>2</sup> Thus, GLBA permits a holding company to offer banking, securities, and insurance, as had been the case before the Great Depression.

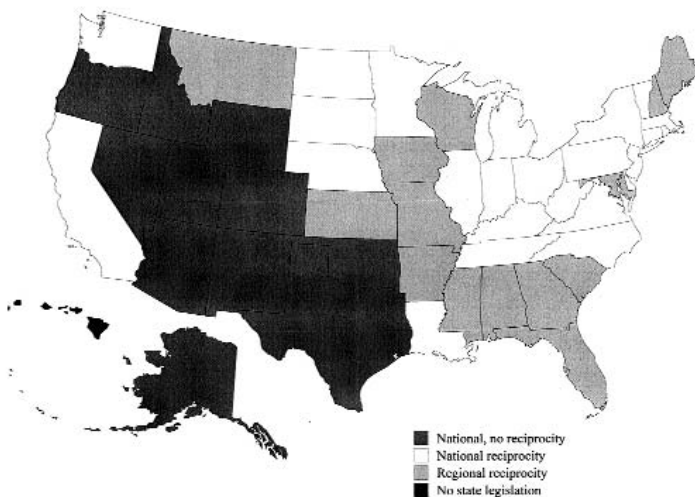
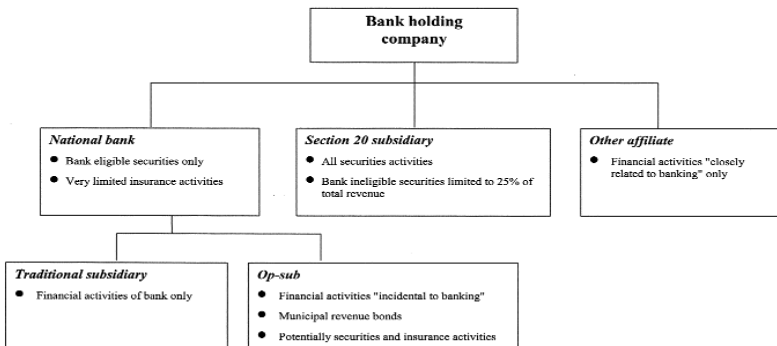


Figure 11.6. Extent of interstate banking on the eve of Riegle-Neal (year-end 1994)

Figures 11.7 and 11.8 clarify the changes in permissible banking company activities wrought by GLBA by summarizing the major changes in banking company organizational structure. As indicated in Figure 11.7, prior to the passage of GLBA banking companies could engage to a very limited extent in securities activities via “Section 20 subsidiaries,” so called because of Federal Reserve System policies with respect to Section 20 of the Glass-Steagall Act dealing specifically with the separation of commercial banking from securities activities. Over the years after the enactment of the Glass-Steagall Act, the Fed had gradually eased restrictions so that on the eve of the passage of GLBA, a Section 20 sub of a BHC could engage in underwriting and dealing in eligible securities provided the Section 20 sub did not derive more than 25 percent of its gross revenue from such activities.<sup>3</sup> Other financial activities “closely related to banking”—as interpreted at the federal level by the Fed and, for national banks, the OCC—were also permissible for banking companies, either via BHC subsidiaries or, in limited respects, via operating subsidiaries of a bank within the BHC. However, the range of such activities was fairly narrow and, importantly, did not include merchant banking or insurance.

Figure 11.8 shows post-GLBA permissible organizational structure for a complex banking organization—and hence the changes in permissible activities—available as a result of the passage of GLBA. GLBA permits a BHC to become a financial holding company (FHC).<sup>4</sup> FHCs, via subsidiaries, can engage in a much wider range of activities than can BHCs, including a full range of securities, insurance, and merchant banking activities.

Subsequent to the enactment of GLBA, many large bank holding companies, as well as a few smaller institutions, have opted to become financial holding companies. Table 11.6 shows the aggregate number of FHCs



**Figure 11.7.** Permissible bank activities and organizational structure: Pre-GLBA

on an annual basis since the passage of GLBA. For comparison, the aggregate number of bank holding companies is also illustrated. Over the post-GLBA period, through March 2003, the number of bank holding companies remained fairly constant. By contrast, during 2000, the first year after the passage of GLBA, 477 FHCs were formed. Subsequently, another 111 were created in 2001 and an additional 45 in 2002; as of March 2003 there were 630 FHCs, accounting for 12 percent of the total number of BHCs (where FHCs are counted as a type of BHC).

Because many of the largest BHCs became FHCs, the FHC-to-BHC asset story is quite different. In particular, as Table 11.7 shows, in 2000 FHCs accounted for over two-thirds of all BHC assets, a share that had risen to 78 percent by March 2003. Hence FHCs are, in this respect, the dominant form of complex banking organization.

Tables 11.8 and 11.9 provide information on the extent to which FHCs focus on activities prohibited to or strictly limited for banking companies prior to the passage of GLBA. As Table 11.8 shows, insurance agency activities are the largest category of GLBA-permissible activities in which FHCs have chosen to engage, with 86 out of 477 (18.0 percent) choosing to do so in 2000, a number which grew to 165 out of 630 (26.2 percent) by March 2003. Securities underwriting and dealing followed as second, with 37 out of 477 FHCs (7.8 percent) engaged in such activities initially, a proportion that rose somewhat to 57 out of 630 (9.0 percent) by March 2003. Measured by assets, securities underwriting and dealing is the most common post-GLBA nontraditional banking activity in which FHCs engage, with almost 20 percent of total FHC assets accounted for in this respect in March 2003 (Table 11.9). Interestingly, in terms of both relative number and

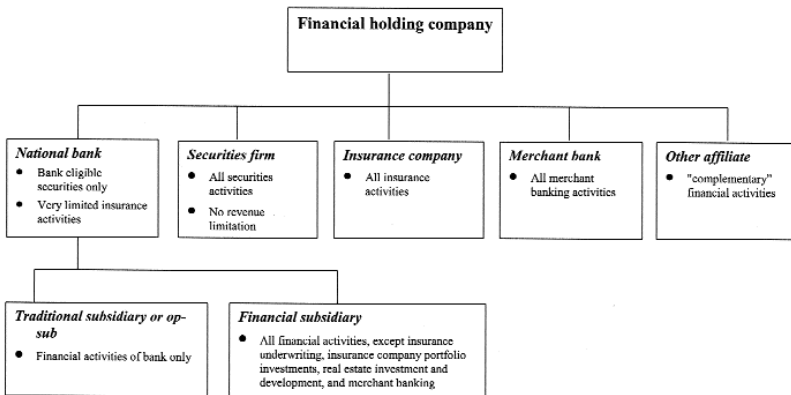


Figure 11.8. Permissible bank activities and organizational structure: Post-GLBA

**Table 11.6.** Aggregate number of bank holding companies and financial holding companies

	2000	2001	2002	Mar-03
<b>Bank holding companies (BHCs)</b>				
Number of domestic BHCs	5,072	5,090	5,094	5,093
Number of foreign BHCs	220	208	193	191
<i>Total number of BHCs</i>	<i>5,292</i>	<i>5,298</i>	<i>5,287</i>	<i>5,284</i>
<b>Financial holding companies (FHCs)</b>				
Number of domestic FHCs	457	565	603	600
Number of foreign FHCs	20	23	30	30
<i>Total number of FHCs</i>	<i>477</i>	<i>588</i>	<i>633</i>	<i>630</i>
<b>Memo:</b>				
FHCs share of all BHCs	9%	11%	12%	12%

Sources: OCC and Fed.

**Table 11.7.** Aggregate assets of bank holding companies and financial holding companies (US\$ billion)

	2000	2001	2002	Mar-03
<b>Bank holding companies (BHCs)</b>				
Assets of domestic BHCs	6,330	6,970	7,603	7,673
U.S. assets of foreign BHCs	2,676	2,676	2,789	2,942
Total assets of BHCs	9,006	9,646	10,392	10,615
<b>Financial holding companies (FHCs)</b>				
Assets of domestic FHCs	4,512	5,469	5,938	6,083
U.S. assets of foreign FHCs	1,545	1,900	2,091	2,240
Total assets of FHCs	6,057	7,369	8,029	8,323
<b>Memo:</b>				
FHCs share of all BHCs	67%	76%	77%	78%

Sources: OCC and Fed.

assets, few FHCs have so far chosen to engage in merchant banking activities.

**Growing Complexity of Banking Organizations**

The Riegle-Neal Act and GLBA were major deregulatory efforts that coincided with and reinforced the broad and accelerating trend toward more complex banking organizations. The trend to greater complexity in banking organizations can be thought to have two related dimensions: consolidation and conglomeration. More broadly, the nature of banking activities has become more complex as banks have shifted emphasis from traditional deposit-taking and lending activities to nontraditional activities.

Consolidation of the banking industry in the United States has proceeded since the early 1980s and has been well documented and much analyzed.<sup>5</sup> As illustrated in Table 11.10 and Figure 11.9, from a peak of almost 15,000 banking organizations in the early 1980s, the U.S. banking industry has consolidated to under 8,000. Mergers of separately chartered subsidiary banks within bank holding companies have accounted for the single biggest element of this consolidation, but thousands of small independent banks also were merged out of existence. In fact, looking across the asset-size breakdowns delineated in the bottom portion of Figure 11.9,

**Table 11.8.** Securities, insurance, and merchant banking activities of financial holding companies (number of FHCs engaged in selected activities)

	2000	2001	2002	Mar-03
Securities underwriting and dealing	37	47	53	57
Insurance underwriting	11	22	29	26
Insurance agency activities	86	133	159	165
Merchant banking	20	29	26	26
<b>Total number of FHCs</b>	<b>477</b>	<b>588</b>	<b>633</b>	<b>630</b>

Sources: OCC and Fed.

**Table 11.9.** Securities, insurance, and merchant banking activities of financial holding companies (percent of total FHC assets)

	2000	2001	2002	Mar-03
Securities underwriting and dealing	15.9	19.7	17.7	19.5
Insurance underwriting	1.9	4.6	4.3	4.3
Merchant banking	0.2	0.1	0.1	0.1
<b>Total FHC assets (US\$ billion)</b>	<b>6,057</b>	<b>7,369</b>	<b>8,029</b>	<b>8,323</b>

Sources: OCC and Fed.

one can see that while the number of the largest (greater than \$10 billion in assets) institutions changed modestly over the 1984–2003 time period, the number of the very smallest institutions shrank by two-thirds, from almost 10,000 down to 3,683. As a consequence, the average size of banking companies has increased.

A review of the numbers of banking institutions, however, does not fully illustrate the rising importance of the largest banking companies. Figure 11.10 directly addresses this issue, showing the relative banking industry asset shares held by different size categories of banks. The most salient feature of Figure 11.10 is that, whereas banks in the greater-than-\$10-billion-dollar group accounted for 42 percent of banking industry assets in

**Table 11.10.** Ownership structure of U.S. insured banking organizations

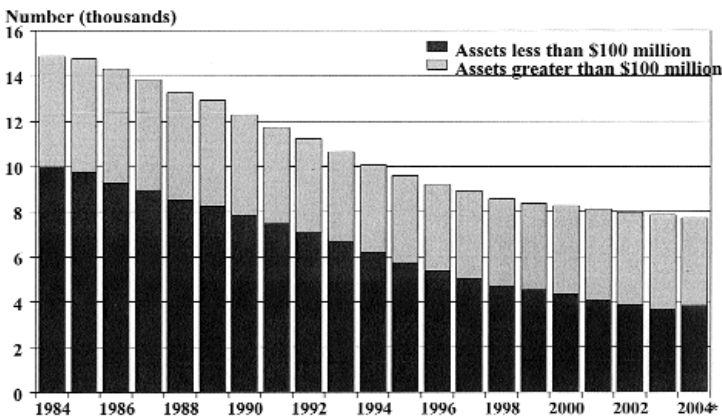
	1984	1990	1995	1998	2000	2003
<b>Thrifts and independent banks*</b>						
Number (% of total)	61.7	51.9	44.7	39.6	38.2	34.6
Assets (% of total)	37.9	30.2	20.9	16.7	17.8	16.6
<b>One-bank holding company</b>						
Number (% of total)	33.4	40.2	46.7	51.6	53.3	58.0
Assets (% of total)	15.5	13.3	12.6	14.3	17.4	18.7
<b>Multibank holding company</b>						
Number (% of total)	4.9	7.9	8.6	8.7	8.5	7.4
Assets (% of total)	46.5	56.5	66.6	69.0	64.8	64.7
<b>Memo:</b>						
<b>Total</b>						
Number	14,886	12,121	9,584	8,523	8,248	7,842
Assets (US\$ billion)	3,653	4,649	5,338	6,531	7,463	9,077

*Note:* \*Includes thrifts owned by unitary thrift holding companies or multithrift holding companies.

*Source:* Federal Deposit Insurance Corporation (FDIC).

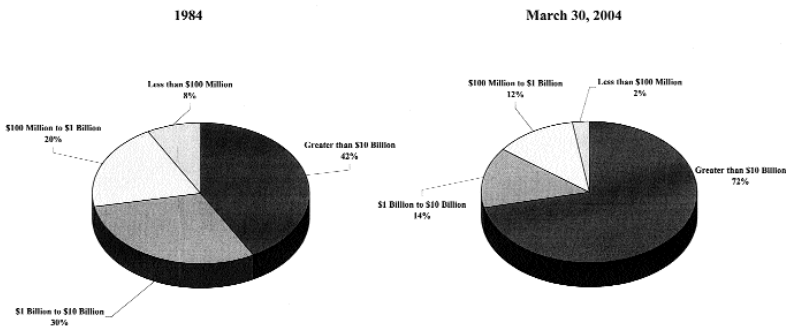


1984, twenty years later this group of banks accounted for 73 percent of banking industry assets.<sup>6</sup> Similarly, the share of banking assets held by the top five banking companies in 1994 was 18 percent, but that share increased to almost 32 percent by year-end 2002, and the asset share of the top twenty-five banking companies grew from 46 percent in 1994 to 61 percent in 2002 (Ferguson 2003). Both the ability to expand geographically (especially post-Riegle-Neal) and productwise (especially post-GLBA) have enhanced the ability of large banking organizations to pursue economies of scale and scope as well as to pursue risk diversification.



Note: First quarter 2004.  
Source: Jones and Critchfield (2004).

Figure 11.9. Number of commercial banking organizations by asset size



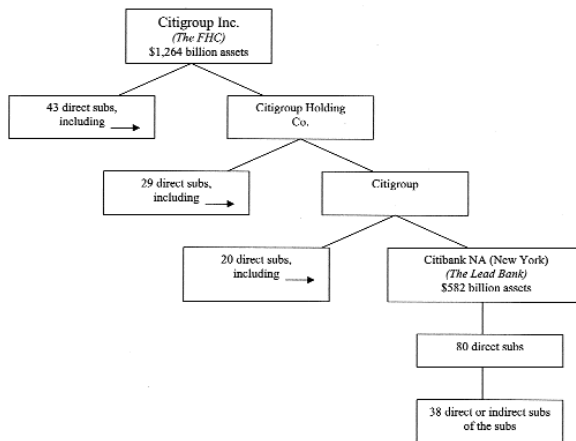
Sources: 1984: Jones and Critchfield (2004); March 30, 2004: FDIC Quarterly Banking Profile, First Quarter 2004.

Figure 11.10. Share of banking industry assets by asset size

In addition to rising asset and deposit shares for the largest banking companies, many of these companies have greatly expanded the range of activities in which they engage, to the point where conglomeration has become an issue of note. “Conglomeration” refers to housing under one corporate roof financial activities that had traditionally belonged fairly distinctly to banks and nonbanks. De Nicolo et al. (2003), White (2004), and Van der Zwet (2003) focus on comparisons of this trend across countries, including the United States. In the current study, we discussed the emergence of financial holding companies in the wake of the passage of GLBA, and Tables 11.8 and 11.9 in particular illustrated dimensions of conglomeration.<sup>7</sup>

An additional dimension of conglomeration is the growing complexity of the corporate organization of large bank-centered organizations. Figure 11.11, for example, shows the hierarchical organization of Citigroup Inc. Citibank NA, the “lead bank” in the organization, stands four levels below the FHC heading the organization. In turn, Citibank NA has eighty direct subsidiaries engaged in banking and other activities permissible to banks, and these subsidiaries in turn have thirty-eight subsidiaries.

A broader reflection of the growing complexity of banking is in the change in the nature of banking business. Perhaps the single most revealing yardstick illustrating this trend is the proportion of bank revenue accounted for by noninterest income (i.e., income not from traditional lending activities). Figure 11.12 shows the long-run trend in noninterest income as a percent of net operating revenue for the banking industry. This ratio has risen substantially since the late 1970s, when noninterest income accounted for less than 20 percent of net operating revenue. As of



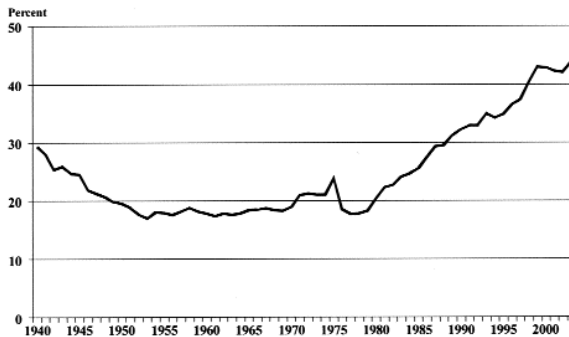
**Figure 11.11.** The complexity of U.S. financial holding companies (Citigroup hierarchical organization)

year-end 2003, this proportion had more than doubled, to 42 percent. Samolyk (2004) shows in detail that approximately two-thirds of noninterest income is accounted for by nontraditional activities, such as securitization income, trading revenues, and servicing and investment banking fees.<sup>8</sup>

**Globalization**

A third major trend characterizing the period after the late 1980s and early 1990s banking crisis era is globalization. White (2004) identifies two aspects of globalization: (1) “The increasing integration of domestic and international financial markets” and (2) “the increasing international presence of major banks and other financial intermediaries.” He provides indirect evidence of the increasing international integration of banking by showing the growth of cross-border transactions in bonds and equities (i.e., the gross purchases and sales of bonds and equities between residents and nonresidents). For the United States, such financial transactions (as a percent of GDP) tripled over the 1992–2002 period. International comparisons provided by White show that the substantial increase in cross-border financial transactions for the United States actually was fairly modest compared to other developed countries, including Japan, Italy, and France.<sup>9</sup>

One dimension of the international integration of banking services that deserves particular mention is the *decrease* in the share of cross-border banking transactions accounted for by offshore financial centers (OFCs). As Barth et al. (2004) explain, offshore financial centers emerged in the 1960s and 1970s as a response to distortionary regulations in developed economies, including the United States. Such measures included interest rate ceilings, restrictions of the range of products supervised financial



Source: Federal Deposit Insurance Corporation (FDIC).

**Figure 11.12.** Noninterest income provides a growing proportion of bank revenue (noninterest income as percent of net operating revenue).

institutions could offer, capital controls, and high effective tax rates. Systematic data, even for the banking industry, going back that far are nonexistent, but using data from the Bank for International Settlements, the authors show that by the early 1990s, OFCs accounted for over 40 percent of a rapidly growing volume of cross-border banking claims. Subsequently though, as onshore banking industry restrictions were eased in major developed countries—including the passage of GLBA—OFCs lost significant ground in offshore banking.

White's second aspect of increasing globalization of banking is the increased presence of major banks. This aspect in turn has two dimensions. The first is the presence of foreign banks in the host country. In the case of the United States, subsequent to the passage of the IBA in 1978, foreign bank entry into the United States banking market increased steadily, particularly as measured by the share of business loans (C&I loans) accounted for by foreign-owned banks.<sup>10</sup> More recently, foreign bank shares of U.S. bank assets have settled to levels below the peaks of the early 1990s, in part because U.S. banks have more successfully competed for a larger share of a growing banking business pie. Nevertheless, De Nicolo et al. (2003) observe that relative to other developed countries, foreign bank activity in the United States is quite strong.

The second dimension of international banking presence is of course foreign banking activities of banks headquartered in the home country. Large U.S. banks in particular have long histories of international banking activities. One way to illustrate the importance of foreign banking activities to U.S. banks is to consider the share of total bank business accounted for by such activities. Table 11.11 shows that for Citigroup, for example, 30 percent of its assets are foreign based, 38 percent of its net income comes from foreign activities, and 29 percent of its employees are located outside the United States. In a complementary vein, Van der Zwet (2003) shows that for the top five financial companies in the United States, 31 percent of revenues come from foreign-based activities. For some U.S. banking companies, these percentages are considerably higher. Table 11.12 shows that American Express Bank, for example, derives 92.6 percent of its income from outside the United States, has 86 percent of its assets abroad, and 85 percent of its staff in foreign countries.

### **Technological Innovation**

Changes in laws and regulations have made expansion into new geographic and product areas possible for banks; competitive pressures, including globalization, have spurred banks to grasp these new opportunities. However, it has been and continues to be technological innovation that makes it possible for banking companies to actualize their aspirations. Two interrelated developments characterize technological innovations: improvements in telecommunications and data management tools and

**Table 11.11.** Citigroup's assets, income, and employees: U.S. and foreign (2003)

<b>Total assets (US\$ million)*</b>	<b>972,112</b>
US assets (%)	63%
Foreign assets (%)	37%
<b>Total net income (US\$ million)</b>	<b>17,853</b>
Net income within US (%)	62%
Net income outside US (%)	38%
<b>Total employees</b>	<b>275,000</b>
US employees (%)	71%
Foreign employees (%)	29%

Note: \*This amount excludes deposits at interest with banks (\$19,608 million), other interest earning assets (\$15,413 million) and noninterest earning assets (\$175,981million).

## Source of revenue by product

By product	Value (US\$ million)	Percentage (excluding PIA and C/O)
Global consumer	9,648	55%
Global corporate and investment bank	5,387	31%
Private client services	778	4%
Global investment management	1,696	10%
Proprietary investment activities (PIA)	230	
Corporate/other (C/O)	114	
<b>Total net income</b>	<b>17,853</b>	<b>100%</b>

## Source of revenue by geographic region

By geographic region	Value (US\$ million)	Percentage (excluding PIA and C/O)
North America	11,150	64%
Mexico	1,452	8%
Europe, Middle East, and Africa	1,753	10%
Japan	742	4%
Asia	1,767	10%
Latin America	645	4%
Proprietary Investment Activities (PIA)	230	
Corporate/Other (C/O)	114	
<b>Total net income</b>	<b>17,853</b>	<b>100%</b>

Sources: Citigroup Annual Report, 2003, and company sources.

innovations in “financial engineering.” Together these forces have resulted in new banking products and business methods, as well as in new methods of delivering banking services. Indeed, DeYoung et al. (2004:96) observe that “the true breaking story of the 1990s was the widespread adoption of new financial and information technologies by almost all U.S. banks.”

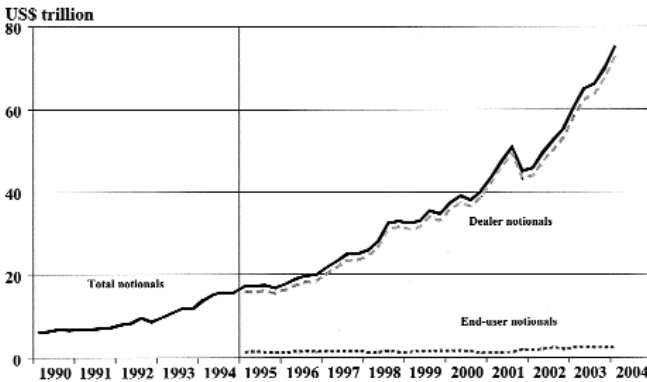
Improvements in telecommunications and data management tools include continuing improvement in computing power, as well as the development and improvement of networks, including the Internet, for conveying information with increasing rapidity. Information technologies have always shaped the production and delivery of banking services and molded the structure of the industry, because information is the essence of banking. Indeed, banks were among the first businesses to make wide-scale application of mainframe computers,<sup>11</sup> and banking is the most information technology-intensive industry in the United States, as measured by the ratio of computer equipment and software to value added.<sup>12</sup> More recently, richer and speedier access to customer information is allowing banks to manage such data with increasing effectiveness and to cross-sell additional financial services.<sup>13</sup>

**Table 11.12.** Globalization of global banking organizations

	USA total assets (US\$ billion)	Assets outside country (%)	Income outside country (%)	Staff outside country (%)
American Express Bank, USA	Domestic	86.2	92.6	85.0
UBS, Switzerland	412.1	84.4	61.7	58.3
Arab Banking Corporation, Bahrain	4.0	83.5	82.7	N/A
Credit Suisse Group, Switzerland	226.6	79.6	-24.8	56.0
Standard Chartered, United Kingdom	7.9	69.6	102.3	N/A
Deutsche Bank, Germany	209.3	66.4	39.2	48.8
ABN Amro Bank, Netherlands	123.5	65.2	57.1	66.9
BNP Paribas, France	61.2	63.5	36.8	40.6
Investec, South Africa	0.8	63.3	43.7	43.7
KBC, Belgium	3.8	57.9	42.6	52.5

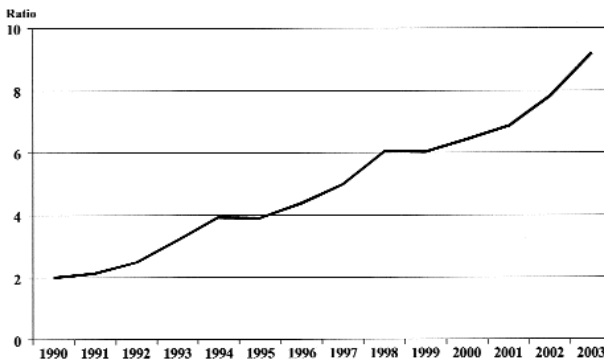
Source: *The Banker*, February 2003.

In a complementary fashion, innovations in financial engineering have been eagerly sought by and applied successfully within the banking industry. Financial engineering centers on the “unbundling” of financial instruments into component parts, as for example in the division of the traditional mortgage loan into principal, interest, and servicing components. Subsequently, components are repackaging into new instruments, allowing for a more precise identification and pricing of risk. As markets expand for the trade in such new products, risk is allocated across the



Source: Office of the Comptroller of the Currency.

Figure 11.13. Derivatives, notionals by type of user insured commercial banks



Source: Federal Deposit Insurance Corporation (FDIC).

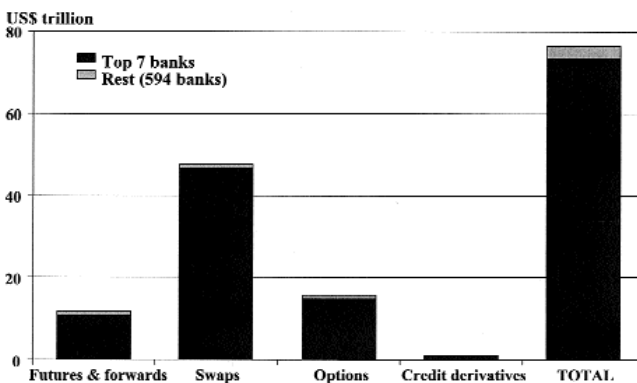
Figure 11.14. Explosion of banks’ off-balance sheet activities (ratio of notional value of derivatives contracts to total bank assets)

financial system more efficiently, in accordance with differing risk appetites of participants.

One of the most significant categories of new financial products to emerge and thrive as a result of both financial engineering and vast improvements in information management capabilities is derivatives. Figure 11.13 clearly illustrates the strong growth in banks' derivatives activities since these instruments became widely used in the early 1990s. Using the notional value of derivatives contracts as a measure, Figure 11.13 shows that banks' derivatives activities increased more than sevenfold between 1990 and 2004, to \$75.3 trillion. Figure 11.14 puts this growth into perspective, showing that the ratio of notional value of derivatives contracts to total bank assets nearly quintupled, from two times assets to over nine times total assets over the 1990–2003 period.

Figures 11.15 and 11.16 show that the banking industry's derivatives activities are highly concentrated among seven large banks; within this group, as measured by derivatives credit exposure relative to risk-based capital, JP Morgan Chase is the biggest player.

Another important example of innovative financial engineering profoundly affecting banking is securitization.<sup>14</sup> Securitization is the process of pooling loans with similar characteristics and repackaging the pooled loans into securities that are then sold to investors. One important type of securitization is asset-backed securities (ABS), which have become particularly important for banks. ABSs give investors a claim on the interest and principal payments generated by the pool of loans on which they are based. Initially, a bank (or other lender) begins the securitization process



Source: Office of the Comptroller of the Currency.

**Figure 11.15.** Seven banks with most derivatives dominate (all commercial banks, first quarter 2004)

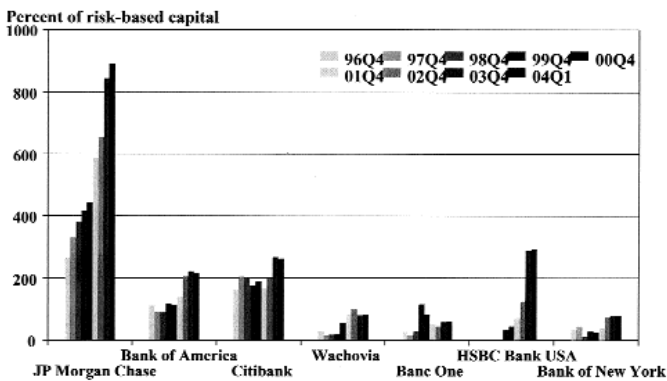
Source: Office of the Comptroller of the Currency.



by creating a special-purpose entity, to which it transfers ownership of a portfolio of similar type loans (e.g., mortgage or auto loans). Ownership shares in the special-purpose entity are then sold to investors, creating a “pass-through” security; or, alternatively, the bank can retain ownership of the special-purpose entity and issue securities that yield investors interest and principal payments after these are collected from borrowers of the loans that have been pooled (a “pay-through” security). Subsequently, the bank can use the proceeds to make new loans.

As Ergungor (2003) points out, issuance of (nongovernment-sponsored enterprise or non-GSE) asset-backed securities had been negligible until the mid-1980s, when minimum capital requirements for banks were increased by federal regulators. Subsequently, the advent of Basel I in the late 1980s significantly increased the incentive for banks to find a way to reduce loans held on balance sheet in order to reduce the impact of capital requirements. ABSs provided a solution to this problem, and their issuance increased as a consequence. Furthermore, after an appeals court ruled in support of an OCC decision in 1985 that banks’ securitization activities did not violate Glass-Steagall Act prohibitions on securities dealings, private issuances of ABSs soared, from \$10 billion in 1984 to almost \$2.5 trillion in 2003.<sup>15</sup> Figure 11.17 shows the surge in privately issued ABSs in comparison to GSE-related ABSs.

The ability to securitize loans has had a significant impact on banks. Figure 11.18 shows, for example, that for consumer credit issued by all entities (i.e., nonmortgage revolving and nonrevolving loans), ABSs now account for a greater share than do consumer loans held on banks’ balance

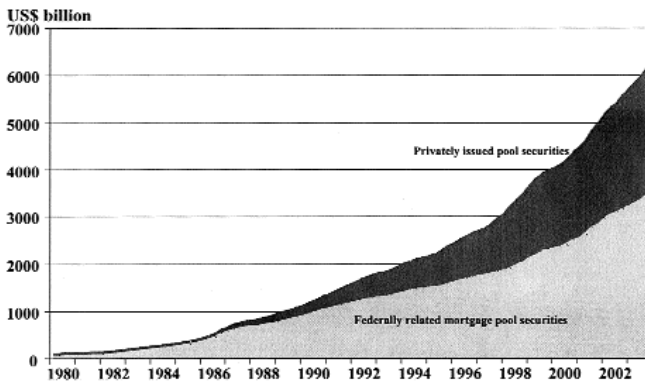


Source: Office of the Comptroller of the Currency.

**Figure 11.16.** Percentage of credit exposure to risk-based capital (top seven commercial banks with derivatives, year-ends 1996–2003, first quarter 2004)

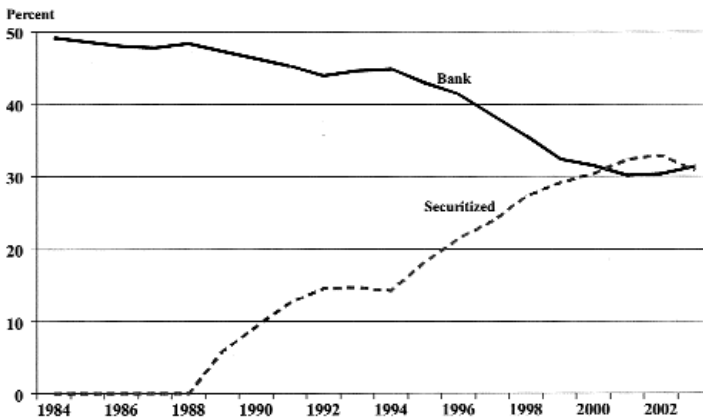
sheets. Figure 11.19 shows the precise mixture of bank credit card loans held on balance sheet compared to those securitized and sold. Since 1998, a greater proportion of such consumer lending by banks has been securitized than kept on balance sheet.

In addition to innovations in banking products and business methods, the postcrisis period has witnessed two significant changes in the delivery of banking services and in payments. The first significant change in banking and payments stimulated by technological innovation is the switch



Source: *Flow of Funds Accounts of the United States*, Board of Governors of the Federal Reserve System.

**Figure 11.17.** Securitization: The growth of asset-backed securities (total financial assets of ABS issuers)



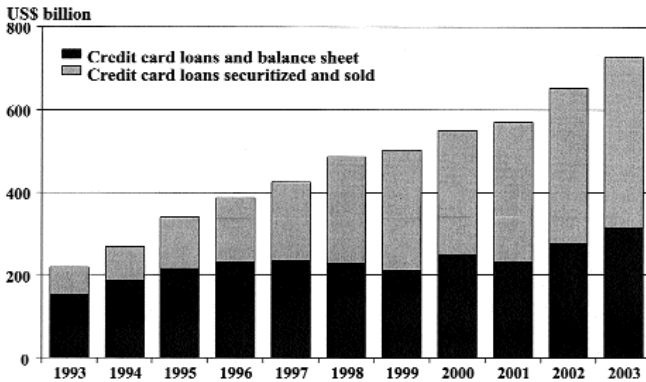
**Figure 11.18.** Shares of consumer credit: Banks compared to pools of securitized assets

from paper-based to electronic payments.<sup>16</sup> Gradual shifts from cash and paper checks to electronic payments had been underway for a number of years prior to the 1990s, but it has only been in the recent past that momentum in this change picked up.

The early to mid-1990s also saw the evolution of Internet technology turn into a revolution in the delivery of finance and commerce. From the mid-1990s on,<sup>17</sup> Internet banking changed from a novelty to a commonplace, increasing slowly to about 100 banks offering online account access and other banking services at the end of 1997 and rising to over 2,000 banks offering Internet banking by the end of 2001. And as early as 1999, all of the largest banks (i.e., those with assets over \$10 billion) offered Internet banking.<sup>18</sup>

Interestingly, very few of the banks offering Internet banking did so as “Internet-only” banks. As of mid-2002, only twenty such Internet-only banks were in operation (DeYoung et al. 2004:98). By that time, in fact, several Internet-only banks and thrifts had actually ceased operating, casting doubt on the viability of the Internet-only business model. DeYoung’s (2001) analysis of Internet-only banks strongly suggests, however, that though the growth trajectory of Internet-only banks initially has a less steep slope than that for traditional de novo banks, they are likely to surpass the performance of traditional new banks within a few years because of underlying technology-related cost advantages.

Nevertheless, contrary to early expectations of many banking industry observers, most banks offering Internet banking now do so in a “clicks and bricks” model. That is, they continue to maintain a strong physical presence, with both branch offices and ATMs, and they offer Internet banking



Source: OCC and Fed.

Figure 11.19. Bank credit card loans

as an additional delivery channel to their customers. Banks that have been particularly successful with this model have discovered that customers who use online banking continue to use branches as well, but online customers are “stickier” (i.e., are less likely to switch to another bank), most likely because there are substantial costs for customers to discontinue and then reconstruct with another bank such electronic banking services as online bill payment.<sup>19</sup>

Another measure of the success of Internet banking is in the growth of the number of customers using it. Initially, relatively few bank customers banked online, but after steady if unspectacular growth in the early stages of Internet banking, the number of online customers has increased rapidly recently. In this vein, the Federal Reserve System’s triannual *Survey of Consumer Finances* shows that, in 1995, 4 percent of households with a checking account said they used a computer for financial services activities; by the 2001 survey, this had increased to 20 percent.<sup>20</sup>

## Lessons for Emerging Market Economies

Despite the existence of an elaborate regulatory and supervisory structure in the United States, a crisis nevertheless occurred in the 1980s. In trying to understand how to design appropriate bank regulations and supervisory practices to prevent problems, it may be helpful to identify some lessons from the U.S. experience.

### Lesson 1: Be Careful in Limiting the Activities of Depository Institutions

The ongoing debate over the appropriate range of activities in which to allow banks to engage highlights the fact that federally insured depositories have been significantly limited by regulation in what they can do and where and when they can do it. This necessarily means that depository institutions have been unable to adapt freely to changing technological and competitive pressures in both domestic and global financial markets. The case of S&Ls represents the most extreme case in which institutions were unable to adapt in a timely manner to a changing financial environment. Despite repeated attempts to broaden their range of permissible activities (see Table 11.5), savings and loans could essentially offer only long-term, fixed-rate home mortgages prior to the early 1980s. Only the threat to their very survival prompted Congress to grant savings and loans—albeit too late for many of them—greater freedom to reduce their interest-rate risk exposure.

Examining the important developments affecting depository institutions in the United States over more than 200 years, one learns that most bank regulation has not been proactive but rather reactive to actual or perceived banking problems. Furthermore, in the process of attempting to resolve problems, all too often new and potentially even more serious

problems have been created. This was the case when S&Ls were first required to specialize in fixed-rate home mortgages and then encouraged to diversify into new activities, many of which they were allowed to do without either sufficient expertise or adequate owner-contributed equity capital. The result was disastrous. Changes in the regulatory structure not only change the opportunities for depository institutions to engage in what they consider to be the most profitable activities, but they also change the incentives with respect to the risk-taking behavior of the managers and owners.

When there are changes in the range of activities in which institutions are allowed to engage, they are typically viewed as necessary to achieve a "safer and sounder" banking industry. Viewed in a static context, such changes may indeed appear to achieve their goal. But financial markets must be viewed in a dynamic context. Financial markets are subject to changes that cannot be controlled or even anticipated by the regulatory authorities.

In view of this situation, there is considerable merit to former Federal Reserve Bank of Cleveland president Jerry Jordan's view that "Banking companies should not be required to get permission from regulators before doing something new. Rather, they should notify authorities of their intentions. If regulators want to prevent the action, the burden should be on them to intervene in a timely way to demonstrate that the costs exceed the benefits" (Jordan 1996). There is also considerable merit to Federal Reserve Bank of Kansas City president Thomas Hoenig's view that, "In light of the costs and difficulties of implementing prudential supervision for larger institutions that are increasingly involved in new activities and industries, the time may have come to sever the link between these institutions and the safety nets, making it feasible to significantly scale back regulatory oversight of their operations" (Hoenig 1996:ii). Of course, if banks are permitted unrestricted access to new on- or off-balance sheet activities, one would want to be sure such activities were conducted under appropriate conditions. In short, any expansion by banks into new activities should be accompanied by prudent limitations on the overall way in which such activities are conducted at home or abroad.

Many individuals believe banking institutions should be restricted to a fairly narrow range of activities because they have access to the federal safety net (i.e., access to deposit insurance, discount window borrowing, and the Fed's guaranteed check-clearing payment system). Indeed, much of the debate over whether or not to ease or eliminate the restrictions separating banks and nonbank firms relates to the safety net. A specific concern that has been expressed is that any subsidy associated with the safety net could flow from the bank to any affiliated nonbank firm. In this regard, one could prohibit nonbank affiliates that are creditors from reaching the assets of the bank by "piercing the corporate veil."

Yet there is disagreement over whether any such subsidy even exists. Federal Reserve chairman Alan Greenspan testified that there is a subsidy (Greenspan 1997). The former comptroller of the currency Eugene Ludwig testified that “no net subsidy exists [taking into account the cost of the regulatory burden imposed on banks]” (Ludwig 1997:2). Former FDIC chairman Ricki Helfer has testified that “if a net subsidy exists, it is very small” (Helfer 1997:2). Outside the bank regulatory agencies, the Shadow Financial Regulatory Committee (1997:2) concluded that the net subsidy is “probably not particularly large.” Obviously some effort should be made to measure the net subsidy, and if a net subsidy is found to exist, it could be eliminated in an efficient and timely manner. Once eliminated, the danger of the subsidy spreading to other affiliates is also eliminated.

The important point is that the mere existence of a subsidy should not be used to deny banks the opportunity to engage prudently in a wide range of activities and, correspondingly, for the mixing of banking and commerce. The United States is clearly out of step with almost all other countries around the world with respect to the extent to which banks are permitted to own nonfinancial firms and vice versa (Barth et al. 2001).

### **Lesson 2: Let Market Discipline Work without Interference**

It is well known that various types of adverse selection, principal-agent, and moral hazard problems arise in banking. It is therefore incumbent upon the regulatory authorities to examine, supervise, and regulate depositories to promote a stable, efficient, and competitive banking industry. The authorities must also, of course, resolve troubled institutions in a timely and cost-effective manner so as to limit losses. As the savings and loan situation so vividly demonstrates—and for that matter the current banking problems in Japan—regulatory forbearance can exacerbate an existing problem. The S&Ls resolved in 1988, for example, had been reporting insolvency on an average of three and a half years prior to resolution. The consequences of allowing insolvent institutions to remain open for lengthy periods of time are reflected in the enormous failure resolution costs (Barth et al. 1986).

Many believe the enactment of the Federal Deposit Insurance Corporation Improvement Act in 1991 eliminated the possibility of any similar regulatory forbearance in the future. While there are certainly desirable features to this act, one should not be overly optimistic that it will work as intended. The reasons for some healthy skepticism are twofold. First, when savings and loans were devastated by the adverse movements in interest rates, existing statutory and regulatory capital standards were deemed to be too stringent and therefore simply eased with the effect of papering over the problem. Second, sufficient information was publicly available documenting the severity of the problems in the savings and loan industry throughout the 1980s, yet decisive action to resolve the situa-

tion once and for all was not taken until President Bush did so at the end of the decade. This suggests that even statutorily mandated regulatory discipline may be less than a perfect substitute for market discipline. Attempts should therefore be made to rely as much as possible on market discipline and less on regulatory discipline to prevent banking problems (Barth et al. 2004; Calomiris 1989, 1992, 1997; Kane 1989, 1992).

### **Lesson 3: Focus Regulation on Financial Functions, Not Financial Institutions**

All too often it appears that policy decisions about bank regulation are made from a relatively narrow perspective. To demonstrate this point, it is well known that funds from savers do not flow to investors only through banks. Instead, funds may flow from savers to investors through capital markets and through a variety of nonbank financial intermediaries. Given the importance of investment for long-term economic growth and hence improved living standards, it is important that the flow of funds from savers to investors not be disrupted. Disruptions in the credit system and payment mechanism, or more generally the financial system, can adversely affect economic growth and development.

Based upon a broad perspective, designing appropriate bank regulation should be viewed as part of the process of designing an appropriate overall financial system (Herring and Litan 1995; Kaufman and Kroszner 1996). Since the different components of a financial system are interrelated, one should not focus exclusively on any one entity or subset of entities, such as depository institutions, when designing regulatory structures. Furthermore, one should realize that a financial system can be viewed from either a domestic or global perspective. In any event, by focusing too narrowly on just banks, for example, one might consider certain regulations as appropriate that from a broader perspective would be considered inappropriate. An example might be useful to help make this point clearer.

Prior to 1956, the mixing of commercial banking and commerce was permitted through holding companies. In that year and subsequently in 1970, however, legislation was enacted that permitted commercial banks to be affiliated only with nonbanking firms that were "closely related to banking." The mixing of commercial banking and commerce was effectively terminated. Yet, in 1968 Congress enacted legislation that permitted a holding company that owned a single savings and loan to engage in any activity, even those activities unrelated to the savings and loan business. As a result of this freedom and other important differences, the value of a savings and loan charter was enhanced relative to a commercial bank charter. Key to this example is that the relative enhancement resulted from legislative and regulatory actions, not market forces. By focusing too narrowly on one particular type of depository institution, in other words, policy

makers enacted legislation that unintentionally altered the financial landscape in significant ways.

When one recognizes that there are many different types of financial firms, one naturally must ask the question: What is a bank? Legally, a bank in the United States is defined as a firm that makes commercial loans, accepts demand deposits, and—after the enactment of the Competitive Equality in Banking Act in 1987—one whose deposits are federally insured by the FDIC. Yet, in 2003 commercial loans and demand deposits each amounted to only about 15 percent of the total assets of commercial banks. What was once a traditional bank no longer exists. Banks have been reinventing themselves to remain viable in a changing financial marketplace. They must compete with a variety of other, less regulated financial and nonfinancial firms as well as with the capital markets by increasingly offering more services that generate fee income and by relying less on net interest income.

Who would have thought only a few years ago that an automobile firm and an electric company would be direct competitors of banks? In 2002, more than half of Ford Motor Company's net income came from its financial services operations. And General Electric Company earned about 40 percent of its net income from the capital services operations. In view of this situation, one must broaden one's focus beyond the legal definition of a bank to encompass the functions performed by banks when designing bank regulations. As the saying goes, "one needs banking services, not banks."

Various restrictions on banks undoubtedly contributed to the development and growth of competing nonbank firms and capital markets. For example, the branching restrictions on banks in the 1800s limited their size and thus their ability to extend loans to increasingly larger corporate entities. This in turn provided a greater incentive for these firms to raise funds through the sale of debt and equity in the capital markets.

Emerging market economies, not only the United States itself, can benefit from the broad lessons learned from the changing role of banks in over 200 years of U.S. financial history. Of course, individual countries differ in many important respects, and thus no single approach to bank regulation and supervision is necessarily best for every country. Beyond the broad lessons described here, moreover, is the need for a more detailed and careful assessment of what specific regulatory framework will work best for each and every emerging market economy.



**Appendix 1. Major depository financial institution legislation**

Date of enactment	Legislation	Key provisions
September 17, 1787	U.S. Constitution	Granted the federal government the exclusive right to coin money and to regulate the value thereof.
February 25, 1791	First Bank of the United States	The first federally chartered bank—chartered for 20 years.
March 10, 1816	Second Bank of the United States	The second federally chartered bank—chartered for 20 years.
February 25, 1863	National Currency Act	Provided for the federal chartering of national banks under the supervision of the Comptroller of the Currency
June 3, 1864	National Currency Bank	Superseded the act of February 25, 1863. (Under neither act could national banks make real estate loans.)
March 3, 1865	Act of 1865	Legislated state banks notes out of existence by imposing a tax of 10 percent (effective August 1, 1866) per annum on the circulating notes of state banks.
June 20, 1874	Act of 1874	Changed the name of the National Currency Act to the National Bank Act.
December 23, 1913	Federal Reserve Act	Provided for the establishment of the Federal Reserve System to furnish an “elastic currency” by advancing funds to liquid but solvent member banks. Also increased supervision and regulation of banks. Gave national banks the power to make real estate loans, but only with respect to farm land
February 25, 1927	McFadden Act	Enlarged the power of national banks to make real estate loans and permitted national banks to branch within the state in which they were located to the same extent permitted state banks. Prior to this act, national banks had no power to branch.
July 22, 1932	Federal Home Loan Bank Act	Established 12 Federal Home Loan Banks under the supervision of the Federal Home Loan Bank Board to advance funds to savings and loan associations to promote home ownership.
May 27, 1933 and June 6, 1934	Securities Act and Securities and Exchange Act	These two acts provided for the regulation of securities exchanges and brokers and dealers in securities to prevent manipulative and unfair practices in the securities markets. Established the Securities and Exchange Commission.

Date of enactment	Legislation	Key provisions
June 13, 1933	Home Owners' Loan Act	Created federal savings and loan associations. Also created the Home Owners' Loan Corporation to purchase delinquent home mortgages from financial institutions and refinance the mortgages over longer terms and at lower interest rates.
June 16, 1933	Banking Act of 1933 (and Glass-Steagall Act)	Created the Federal Deposit Insurance Corporation (FDIC), prohibited the payment of interest on demand deposits, established Regulation Q, and forced a separation between banking and the securities business.
June 26, 1934	Federal Credit Union Act	Authorized federal credit unions in all states. Maximum maturity of loans was initially two years.
June 27, 1934	National Housing Act	Created the Federal Savings and Loan Insurance Corporation. It also authorized the FSLIC to regulate savings and loan holding companies.
August 23, 1935	Banking Act of 1935	Amended the Banking Act of 1933 and the Federal Reserve Act to restructure the Federal Open Market Committee and the Federal Reserve Board. Also permitted national banks to make 5-year real estate loans.
May 9, 1956	Bank Holding Company Act (and Douglas amendment)	Prohibited interstate ownership of banks by companies owning more than one bank unless the law of the state of the bank to be acquired authorized it, and restricted the range of permissible nonbanking activities to those approved by the Federal Reserve Board. The act permitted the Federal Reserve Board to allow a bank holding company to engage directly in, or acquire shares of any company, the activities of which are found to be so "closely related to banking as to be a proper incident thereto," and which, if engaged in by a bank holding company, will result in a net public benefit.
September 23, 1959	Spence Act	The original holding company legislation for savings and loan associations. It provided for regulation of savings and loan holding companies by the FSLIC. Prohibited savings and loan holding companies from acquiring additional S&Ls, but did not prohibit the acquisition of a single S&L by a company that owned no other S&Ls.

Date of enactment	Legislation	Key provisions
October 23, 1962	Bank Service Corporation Act	Authorized banks to invest in service corporations to provide clerical and related financial services to investing banks.
September 2, 1964	Savings and Loan Service Corporation Act	Authorized federal savings and loan associations to acquire and operate service corporations to engage (up to 1 percent of their assets) in businesses not otherwise considered permit to take for a savings and loan institution to engage in directly, including stock brokerage, insurance brokerage, and agency activities.
July 23, 1965	Coinage Act	Declared that all coins and currencies of the U.S., including Federal Reserve notes are legal tender.
October 16, 1966	Financial Institutions Supervisory Act	Granted authority to the Comptroller of the Currency, Federal Reserve Board, FDIC, and the FSLIC to issue cease-and-desist and suspension and removal orders that are effective immediately.
September 21, 1966 February 14, 1968	Interest Rate Control Act Savings and Loan holding Company Act	Extended deposit rate ceilings to the thrift institutions. Defined savings and loan holding company as being any company that directly or indirectly controls an insured institution(FSL savings and loan or FDIC—insured federal savings bank) or other savings and loan holding company . Prohibited a multiple savings and loan holding company controlling insured institutions in more than one state (but later, under the Gain—St Germain Act of 1982, temporary authority was granted to the FSLIC to approve emergency acquisitions of insured institutions, including interstate and interindustry acquisition). Permitted unitary savings and loan holding companies (that meet the IRS thriftiness test—60 percent of the assets must be obligations of the United States or states, residential real estate loans, or urban-renewal loans—included as part of the Gain—St Germain Act of 1982) to engage, through non—FSLIC-insured subsidiaries, in any activity, even those unrelated to the savings and loan business (for example, Sears, Roebuck and Company). Multiple savings and loan holding companies were allowed to engage only in those activities approved by the FSLIC.

Date of enactment	Legislation	Key provisions
July 24, 1970	Emergency Home Finance Act	Established the Federal Home Loan Mortgage Corporation to strengthen the secondary market for conventional mortgages, as well as for federally insured or guaranteed mortgages, through the purchase of residential mortgages from federally insured institutions.
October 19, 1970	Federal Credit Union Act	Established the National Credit Union Administration to charter federal credit unions and to provide federal insurance of credit union member accounts.
December 31, 1970	One-Bank Holding Company Act	Subjected one-bank holding companies to the same regulations as multiple-bank holding companies and restricted the definition of "bank" to institutions that accept demand deposits and make commercial loans.
November 10, 1978	Financial Institutions Regulatory and Interest Rate Control Act	Provided for FHLBB chartering of federal savings banks by permitting existing state-chartered mutual savings banks to convert to federal charters.
September 17, 1978	International Banking Act	Subjected foreign banks and foreign holding companies with branches or agencies in the United States to portions of the Bank Holding Company Acts of 1956 and 1970 to place them on an equal footing with U.S. institutions.
March 31, 1980	Depository Institutions Deregulation and Monetary Control Act	Authorized NOW accounts for individuals and not-for-profit organizations at all federally insured depository institutions as of December 31, 1980; phased out Regulation Q over a 6-year period ending on March 31, 1986. Imposed mandatory reserve requirements set by the Federal Reserve Board on all depository institutions and permitted these institutions to utilize Federal Reserve services, including discount and borrowing privileges. Increased federal insurance of accounts from \$40,000 to \$100,000. Permanently authorized automatic transfer services and remote-service units. Preempted state usury ceilings. Authorized federal savings and loan associations to issue credit cards, to act as trustees, to operate trust departments, to make loans on the basis of commercial real estate, to invest up to 20 percent of their assets in a combination of consumer loans, commercial paper, and corporate debt securities, and to invest up to 3 percent of their assets in service corporations.

Date of enactment	Legislation	Key provisions
October 15, 1982	Garn-St. Germain Depository Institutions Act	<p>Expanded the authority of the FDIC and the FSLIC to provide direct aid to, and facilitate mergers of, insured depository institutions. Also, for the first time, permitted interstate and interindustry acquisitions of troubled financial institutions. More specifically, authorized the FDIC and FSLIC to increase or maintain capital of insured banks and savings and loan associations eligible for assistance through the purchase of capital instruments known as net worth certificates. Authorized commercial banks and thrifts to offer money market deposit accounts, and preempted state restrictions on the FHLBB to charter and regulate federal savings and loan associations and federal savings banks, and granted them essentially similar powers (the savings banks could be organized in either stock or mutual form). Permitted federal associations to make commercial, corporate, business, or agricultural loans, which, after January 1984, could comprise up to 10 percent of an association's assets; to invest as much as 30 percent of assets (up from 20 percent) in consumer loans; to offer individual or corporate demand deposit accounts (although corporate checking accounts would be opened only by companies having other business with the association); to increase from 20 to 40 percent the investment of assets in loans secured by nonresidential real estate; to invest up to 10 percent of assets in personal property for rent or sale (thereby gaining access to the leasing business); to make educational loans for any educational purpose (rather than just for college or vocational training); to invest up to 100 percent of assets in state or local government obligations; and, for the first time, to invest in other savings and loan associations' time and savings deposits, and use such investments to help meet liquidity requirements. Abolished on all accounts on January 1, 1984, the slightly higher interest rate that savings and loan associations could pay relative to commercial banks.</p>

Date of enactment	Legislation	Key provisions
October 22, 1986	Tax Reform Act	<p>Reduced the deductible contribution to bad debt reserves to 8 percent of taxable income (down from 40 percent) Replaced the minimum corporate tax (down from 46 percent) Included special rules governing the carryover of net operating losses of a troubled savings and loan by its acquirer Reduced the depreciation benefits of commercial and residential property Limited the offsetting losses on passive investments that affect limited partnership syndications and eliminated favorable capital gains treatment Provided for 3-year carry backs and 15-year carry forwards for savings and loan net operating losses</p>
August 10, 1987	Competitive Equality in Banking Act	<p>Redefined the definition of bank to limit the growth of non-bank banks. Sought to recapitalize the Federal Savings and Loan Insurance Corporation (FSLIC).</p>
August 9, 1989	Financial Institutions Reform, Recovery, and Enforcement Act	<p>Limited savings banks' investments in nonresidential real estate, required divestiture of junk bond holdings (by 1994), and imposed a restrictive asset test to qualify as a savings bank (the qualified thrift lender test, or QTL). Equalized the capital requirements of savings institutions and banks. Replaced FSLIC with FDIC-SAIF. Replaced the Federal Home Loan Bank Board as the charter of federal savings institutions with the Office of Thrift Supervision (OTS), an agency of the Treasury. Created the Resolution Trust Corporation (RTC) to resolve failed and failing savings institutions.</p>
December 19, 1991	Federal Deposit Insurance Corporation Improvement Act	<p>Introduced prompt corrective action (PCA), requiring mandatory interventions by regulators whenever a bank's capital falls. Introduced risk-based deposit insurance premiums beginning in 1993. Limited the use of "too big to fail" bailouts by federal regulators for large banks. Extended federal regulation over foreign bank branches and agencies in the Foreign Bank Supervision and Enhancement Act (FBSEA).</p>

Date of enactment	Legislation	Key provisions
September 29, 1994	Riegle-Neal Interstate Banking and Branching Efficiency Act	Permitted bank holding companies to acquire banks in other states, starting September 1995. Invalidated the laws of states that allow interstate banking only on a regional or reciprocal basis. Beginning June 1997, permitted bank holding companies to convert out-of-state subsidiary banks into branches of a single interstate bank. Also permitted newly chartered branches within a state if state law allows.
November 12, 1999	Gramm-Leach-Bliley Act	Eliminated restrictions on banks, insurance companies, and securities firms entering into each others' areas of business. Provided for state regulation of insurance. Streamlined bank holding company supervision, with the Federal Reserve as the umbrella holding company supervisor. Prohibited FDIC assistance to affiliates and subsidiaries of banks and savings institutions. Provided for national treatment of foreign banks engaging in activities authorized under the act.
July 30, 2002	Sarbanes - Oxley Act	Companies must disclose whether a board's audit committee has at least one "financial expert" and if not, the reason for the absence. It will be generally "unlawful" for an accounting firm to provide any major nonaudit service (bookkeeping, for example) to a client while completing that company's audit. The CEO and CFO must swear to the accuracy of the company's quarterly and annual financial reports. An officer who certifies a report that does not conform to the act's requirements of Sarbanes-Oxley faces a fine of not more than \$1 million and a sentence of not more than 10 years in jail or both. The act established the Public Company Accounting Oversight Board, or PCAOB-quickly nicknamed Peekaboo. The board of five "financially literate" members answers to the SEC. New rules separate Wall Street's stock analysis from its deal-making side-and punish companies who "retaliate" against analysts who criticize them. Makes tampering with corporate records a crime. Maximum penalty for mail and wire fraud increased from five to 10 years.

Source: Authors.

## Appendix 2. Banking institutions and their regulators: February 2003

	Chartering & licensing		Branching		Mergers, acquisitions & consolidations	
	1	2. Intrastate	3. Interstate	4. Intrastate	5. Interstate	
A. National Banks	OCC	OCC	OCC	OCC (10)	OCC (18)	
B. State Member Banks	State Authority	Federal Reserve & State Authority	Federal Reserve & State Authority (7)	Federal Reserve & State Authority (11)	Federal Reserve & State Authority (18)	
C. FDIC-Insured State Nonmember Banks	State Authority	FDIC & State Authority	FDIC & State Authority	FDIC & State Authority (12)	FDIC & State Authority	
D. Non-FDIC-Insured State Banks	State Authority	State Authority	State Authority	State Authority (13)	State Authority (13)	
E. Insured Federal Savings Associations (1)	OTS	OTS	OTS (8)	OTS	OTS (8, 14)	
Insured State Savings Associations (2)	State Authority	OTS & State Authority	OTS & State Authority	OTS & State Authority (14)	OTS & State Authority	
F. Non-FDIC-Insured State	State Authority	State Authority	State Authority	State Authority	State Authority	
G. Federal Credit Unions	NCUA	5	5	NCUA	NCUA	
State Credit Unions	State Authority	State Authority	State Authority	NCUA & State Authority (15)	NCUA & State Authority (15)	
H. Bank Holding Companies	Federal Reserve & State Authority	Federal Reserve & State Authority	Federal Reserve & State Authority	Federal Reserve & State Authority	Federal Reserve & State Authority (19)	
I. Savings Association Holding Companies	OTS & State Authority (3)	OTS & State Authority	OTS & State Authority	OTS & State Authority	OTS & State Authority	
J. Foreign Branches of U.S. National and State Member Banks	Federal Reserve & State Authority	N/A	N/A	N/A	N/A	
Foreign Branches of U.S. Insured State Nonmember Banks	State Authority	N/A	N/A	N/A	N/A	
K. Edge Act Corporations	Federal Reserve	Federal Reserve	Federal Reserve	Federal Reserve (16)	Federal Reserve (16)	
Agreement Corporations	State Authority (4)	Federal Reserve	Federal Reserve	State Authority (16)	Federal Reserve (16)	
L. Federal U.S. Branches and Agencies of Foreign Banks	OCC	OCC & Federal Reserve (6)	OCC & Federal Reserve (9)	OCC or Federal Reserve (17)	OCC or Federal Reserve (17)	
State U.S. Branches and Agencies of Foreign Banks	State Authority	State Authority & Federal Reserve (6)	State Authority & Federal Reserve (9)	Federal Reserve & State Authority (17)	Federal Reserve & State Authority	



Reserve requirements	Access to the discount window	Deposit insurance	Supervision & examination	Prudential limits, safety, & soundness			Consumer protection	
				9	10	11	12. Enforcement	
6	7	8	9	10	11	12. Enforcement		
Federal Reserve (20)	Federal Reserve (22)	FDIC	OCC (26)	OCC	Federal Reserve	OCC		
Federal Reserve (20)	Federal Reserve (22)	FDIC	Federal Reserve & State Authority (26)	Federal Reserve & State Authority	Federal Reserve & State Authority	Federal Reserve & State Authority		Federal Reserve & State Authority
Federal Reserve (20)	Federal Reserve (22)	FDIC	FDIC & State Authority	FDIC & State Authority	Federal Reserve & State Authority	FDIC & State Authority		FDIC & State Authority
Federal Reserve (20)	Federal Reserve (22)	State Insurance Fund (23)	State Authority	State Authority	Federal Reserve & State Authority	State Authority		State Authority & FTC (30)
Federal Reserve (20)	Federal Home Loan Bank & Federal Reserve (22)	FDIC	OTS (26,27)	OTS	Federal Reserve	OTS		OTS
Federal Reserve (20)	Federal Home Loan Bank & Federal Reserve (22)	FDIC	OTS & State Authority (26,27)	OTS & State Authority	Federal Reserve & State Authority	OTS & State Authority		OTS & State Authority
Federal Reserve (20)	Federal Home Loan Bank & Federal Reserve (22)	State Insurance Fund (23)	State Authority (27)	State Authority	Federal Reserve & State Authority	State Authority & FTC (30)		State Authority & FTC (30)
Federal Reserve (20)	Central Liquidity Facility & Federal Reserve (22)	Credit Union Share (24)	NCUA	NCUA	Federal Reserve & State Authority	NCUA		NCUA
Federal Reserve (20)	Central Liquidity Facility & Federal Reserve (22)	Credit Union Share or State Insurance Fund (24)	State Authority	State Authority	Federal Reserve & State Authority	State Authority & FTC (30)		State Authority & FTC (30)
N/A	N/A	N/A	Federal Reserve	Federal Reserve	Federal Reserve & State Authority	FTC (30)		FTC (30)
N/A	N/A	N/A	OTS	OTS	Federal Reserve & State Authority	FTC (30)		FTC (30)
(21)	N/A	N/A	OCC or Federal	OCC or Federal	N/A	N/A		N/A

	Reserve (28)	Reserve & State Authority
(21)	N/A	N/A
	FDIC or State Authority (28)	FDIC & State Authority
Federal Reserve (20)	N/A	N/A
Federal Reserve (20)	N/A	N/A
Federal Reserve (20)	Federal Reserve (22)	Federal Reserve
Federal Reserve (20)	Federal Reserve (22) Federal Reserve (26,29)	Federal Reserve & State Authority
Federal Reserve (20)	Federal Reserve (22)	Federal Reserve & State Authority
Federal Reserve (20)	Federal Reserve (22)	Federal Reserve & State Authority

Abbreviations:

FDIC: Federal Deposit Insurance Corporation; FTC: Federal Trade Commission; Federal Reserve: Board of Governors of the Federal Reserve System; Federal Reserve Banks; IBF: International Banking Facility; Member: Member of the Federal Reserve System; N/A: Not applicable; NCUA: National Credit Union Administration; OTS: Office of Thrift Supervision; OCC: Office of the Comptroller of the Currency

Notes:

- (1) Federal Savings associations included any thrift association, such as a federal savings bank chartered under Section 5 of the Home Owners Loan Act.
- (2) State savings associations include any state-chartered savings bank, savings and loan association, building and loan association, homestead association, and cooperative bank.
- (3) Savings association holding companies are required to register with the OTS.
- (4) Agreement Corporations agree to be subject to the restrictions on powers established by the Federal Reserve for Edge Act Corporations.
- (5) Federal Credit Unions are not required to receive NCUA approval before opening a branch.
- (6) The establishment of additional federal branches or agencies within a state by a foreign bank requires prior approval of both OCC and the Federal Reserve. The establishment of additional federal branches or agencies is subject to the same limitations and restrictions as would be applicable to the establishment of branches by a national bank whose principal office is located in that state. The establishment of additional state branches or agencies by a foreign bank requires approval of both the appropriate state authority and the Federal Reserve. The establishment of state branches and agencies is regulated by state banking law.
- (7) The Reigle-Neal Interstate Banking and Branching Efficiency Act of 1994 permits banks to participate in interstate branching, subject to host-state laws, provided the host-state laws are not discriminatory against non-host-state banks.
- (8) Federal savings associations are prohibited from out-of-state branching unless they qualify as domestic building and loan associations under the tax laws or meet certain other requirements.
- (9) Foreign banks with state or federal branches or agencies are permitted to establish a federal or state branch of agency outside their home state. Generally, the establishment of an agency outside the home state is subject to the same limitations and restrictions as would be applicable to a national bank whose principal office is located in that home state.

- (10) The OCC must approve the merger or acquisition if the resulting bank is a national bank. However, if a non-FDIC-insured bank or savings association on merges into a national bank, the FDIC must approve the merger.
  - (11) The Federal Reserve must approve the merger or acquisitions if the resulting bank is a state member bank. However if a non-FDIC-insured bank or savings associations merges into a state member bank, then the FDIC must also approve the merger.
  - (12) The FDIC must approve the merger or acquisition if the resulting bank is an insured state non-member bank or if a non-FDIC-insured bank or savings association merges into an insured state non-member bank.
  - (13) In addition to state authority, the FDIC must approve mergers or acquisitions between insured depository institutions and non-insured institutions.
  - (14) The OTS must approve the merger or acquisition if the resulting institution is an insured savings associations. However, if a non-insured institution merges into an insured savings association, the FDIC must approve the merger.
  - (15) The NCUA must approve the merger or acquisition if the resulting credit union is federally insured.
  - (16) The Federal Reserve supervises acquisitions made by Edge Act Corporations and Agreement Corporations. Agreement Corporations may merge as permitted by state authority.
  - (17) The International Banking Act of 1978 makes foreign banks that have branched or agencies in the U.S. subject to the provisions of the Bank Holding Company Act of 1956, as amended, with respect to certain bank and non-banking acquisitions. The acquisition of a non-banking organization is not subject to any interstate restrictions or limitations.
- Acquisitions of banks are subject to the Bank Holding Company Act and the home-state limitations imposed by the International Banking Act.
- (18) The Reigle-Neal Act generally allows interstate consolidations and mergers subject to certain limitations on deposit concentrations and subject to host-state requirements.
  - (19) The Reigle-Neal Act amended Section 3(d) of the Bank Holding Company Act generally to allow bank holding companies to acquire banks in other states if the applicant bank holding company is adequately capitalized and managed. Bank Holding Companies can combine subsidiaries in more than one state with the prior approval of the appropriate federal regulatory agency.
  - (20) Under the Depository Institutions Deregulation and Monetary Control Act of 1980, the Federal Reserve is required to set a uniform system of reserve requirements (Regulation D) for virtually all depository institutions, including U.S. branches and agencies of foreign banks. Non-FDIC-insured state banks eligible for deposit insurance may be subject to reserve requirements. Regulation D provides that IBF deposits satisfying the requirements of Regulation D are exempt from reserve requirements.
  - (21) Deposits of foreign branches of U.S. banks payable only outside the U.S. are generally not subject to reserve requirements.
  - (22) Nearly all depository institutions in the U.S., including branches and agencies of foreign banks, have access to the discount window. Reserve Banks will extend primary credit at a rate above the target federal funds rate on a very short-term basis (typically overnight) to depository institutions that the Reserve Banks judge to be in generally sound financial condition. Longer-term extensions of primary credit are also available. Eligibility for primary credit will be determined according to a set of criteria that is uniform throughout the Federal Reserve System. An institution eligible to receive primary credit need not exhaust other available sources of funds before coming to the discount window, nor will it be prohibited from using primary credit to finance sales of federal funds. The Reserve Banks will offer secondary credit to institutions that do not qualify for primary credit. As with primary credit, secondary credit will serve as a backup source of liquidity on a very short-term basis, provided that the loan is consistent with a timely return to reliance on market-source funds.
  - (23) Deposits that are not insured by the FDIC may be insured by states or state-authorized insurance funds.
  - (24) Shares in all federal credit unions and many state credit unions are insured by the National Credit Union Share Insurance Fund, which is administered

by the NCUA. Shares in some state credit unions may be insured by states or state-authorized insurance funds.

- (25) Federal and state branches of foreign banks engaged in wholesale deposit-taking (generally deposits over \$100,000) are not required to obtain FDIC insurance.
- (26) The FDIC has some residual examination authority over all FDIC-insured depository institutions.
- (27) FDIC-insured savings associations are supervised and examined by the OTS; non-FDIC-insured state savings associations by state authority.
- (28) Foreign branches of national banks are supervised and examined by the OCC; foreign branches of state member banks by the Federal Reserve; foreign branches of insured state nonmembers by the FDIC and state authority; and foreign branches of non-FDIC-insured state banks by state authority.
- (29) The Federal Reserve has examination authority over all U.S. branches and agencies of foreign banks. The Federal Reserve's examination authority is shared with: the OCC in the case of federal branches and agencies; the FDIC and state authorities for FDIC-insured state branches; and state authorities in the case of state non-FDIC-insured branches and agencies.
- (30) Enforcement of federal consumer regulations is generally left to the FTC when the institution is not a federally insured depository institution.

Source: Federal Reserve Bank of New York.

## Notes

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1. The conditions are as follows: (1) The bank holding company (BHC) must be adequately capitalized and adequately managed; (2) the BHC's community reinvestment record must pass a review by the Federal Reserve Board; (3) the acquisition must not leave the acquiring company in control of more than 10 percent of nationwide deposits or 30 percent of deposits in the state; and (4) the bank to be acquired must meet any age requirement (i.e., in terms of years in existence), up to five years, established under state law.
2. See Barth et al. (2000) for an excellent summary of GLBA.
3. See Board of Governors of the Federal Reserve System (2003) for a detailed description.
4. Foreign banking organizations subject to the Bank Holding Company Act can also elect to become FHCs. See Board of Governors of the Federal Reserve System (2003) for a detailed explanation.
5. For a recent example of such research, see Jones and Critchfield (2004), whose literature review focuses in particular on previous efforts to forecast structural changes in the U.S. banking industry. Note that banking industry consolidation has been a key feature in many other countries as well. For example, see White (2004), De Nicolo et al. (2003), Van der Zwet (2003), and the Group of Ten (2001).
6. Jones and Critchfield (2004) discuss in detail a parallel trend for banking deposits. See especially pages 9–10.
7. The fact that relatively few FHCs have chosen to expand across a wide range of previously restricted activities has caused Federal Reserve vice chairman Ferguson to remark that conglomeration has unfolded at a much slower pace than many imagined. See Ferguson (2003), especially the discussion on pages 3 and 4.
8. See, in particular, Samolyk (2004:Table 11.4).
9. A secondary aspect of the increasing integration of domestic and international financial markets, but one that nevertheless has been the subject of intense focus recently, is the cross-border provision of inputs into banking—that is, cross-border outsourcing. Data on this aspect of banking are scant, but recent estimates suggest that it is a rapidly growing phenomenon. For example, see Kelly and Nolle (2003).

10. Grosse and Goldberg (1991), Nolle (1995), Nolle and Seth (1996), and DeYoung and Nolle (1996) document and analyze the growth in foreign banking in the United States through the early 1990s.
11. See Office of the Comptroller of the Currency (1999).
12. DeYoung et al. (2004) report this fact, citing a study by Triplett and Bosworth (2002).
13. For a clear introductory survey to technological innovations in banking and payments and possible supervisory implications for banks, see Furst et al. (1998).
14. DeYoung et al. (2004) provide an interesting analysis of the emergence of securitization in banking.
15. See Ergungor (2003) for further details. These figures are for privately issued ABSs and do not include federally related mortgage pool securities.
16. DeYoung et al. (2004:98) opine that "It is quite possible that the biggest impact of technology on the banking system may have been on the payment system."
17. Furst et al. (1998) suggest that 1995 marks the beginning of the "Internet banking era."
18. Eglund et al. (1998) were the first to systematically analyze the nature and extent of Internet banking. See also Furst et al. (2000, 2002) and Lang and Nolle (2001) for descriptions of the growth in the incidence of Internet banking across size groups of banks.
19. Ferguson (2003:6) observes that data from the Federal Reserve's 2001 *Survey of Consumer Finances* shows that, although 20 percent of households with checking accounts engaged in some form of online financial services, 78 percent still report using branches for some banking business.
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# Comments

Joon-Ho Hahm

The need for better management of systemic crises has been highlighted by recent financial crises in emerging market countries. Faced with global trends of financial consolidation and conglomeration, efforts of emerging market countries to liberalize and internationalize their financial systems are often frustrated with heightened financial fragility and vulnerability to systemic financial disruption. Indeed, maintaining a robust financial system by minimizing systemic risk potential has become a most urgent task for policy makers of emerging market countries.

The paper by Shin, "Regulation and Policy Response to Systemic Crises," provides an intuitive and succinct explanation on the nature and channel of a typical systemic risk in modern financial markets. By illustrating from historical experiences, and based upon a neatly constructed theoretical framework, the author clarifies the nature and propagation mechanism of systemic contagion. The simulation results reveal how various risk factors interact with each other to propel an initial local disruption into a systemwide failure.

The present work provides many interesting findings that could not be clearly understood in the existing literature. For instance, we now understand why the degree of balance sheet interconnection is not linearly related with the degree of contagion. Furthermore, the paper offers a set of important and practically applicable policy recommendations for more effective management of systemic risk.

While I agree with most of major arguments made in the paper, in the sense that good papers always raise numerous interesting questions, I will address a couple of questions and issues unresolved in the paper.

The first issue pertains to the nature of systemic contagion in the banking system. In the present paper, the key channel of systemic contagion is the interaction between credit risk and market risk (asset price risk). Given the limited success of traditional models in explaining the magnitude of systemic contagion solely by interbank credit exposure, this paper introduces an additional channel in which minimum capital requirement interacts with asset market price. The main trigger of this "endogenous risk" in the present model is marking to market of the bank balance sheet. In other words, a fall in the price of illiquid assets due to forced sales of capital-constrained banks leads to another round of forced asset sales by initially unaffected banks as their net equity values are evaluated at the market price.

An interesting feature of the current model that differentiates it from traditional bank crisis literature is that this model does not resort to bank-run incentives (e.g., Diamond and Dybvig 1983; Chari and Jagannathan 1988). Instead of asymmetric information and the first-come, first-served bank liability contract, this model assumes proportional loss sharing among bank creditors and instantaneous marking to market of bank assets. In the traditional models, it is a depositor run that causes a forced sale of opaque and illiquid assets leading to the insolvency of initially solvent but illiquid banks. However, in the present model, it is minimum capital requirement combined with marking to market that causes forced sales of illiquid assets leading to bank insolvency.

While both models imply the necessity of maintaining an adequate level of liquid assets to protect banks from forced sales of illiquid assets, the source of the contagion clearly differs in nature. For instance, the present model cannot generate a contagion effect in the absence of the minimum capital constraint. This implies an important paradox in this model in that prudential regulation to minimize negative externality of a bank failure actually becomes the source of systemic risk. Would then the abolition of the capital requirement reduce systemic risk potential in reality?

I would agree with the argument that an *ex ante* prudential regulation such as the BIS capital requirement could yield a perverse destabilizing effect, amplifying the business cycle. However, once asymmetric information comes back into play, the importance of letting banks maintain adequate capital soon becomes evident. Adequate capital buffer is a credible signal to depositors and creditors for bank safety, and hence it reduces incentives to run on the bank. It also minimizes the moral hazard of bank managers to engage in aggressive risk taking.

For the current model to be more realistic in explaining the potential magnitude of systemic risk, it would be desirable to incorporate this bank “run” possibility on the part of depositors and creditors. I do not know how complicated the model would be if the run possibility is to be explicitly modeled here. However, the interaction of this additional genuine “liquidity risk” with the model’s credit and market risks would generate nontrivial and potentially important propagation patterns. For instance, a bank failure may cause a panic and increase withdrawal demand for bank deposits, which leads to forced sales of illiquid assets for other banks even if those banks are not capital constrained, which would in turn deepen the asset price effect.

A second issue is on the validity of the assumption of marking to market. In actuality, bank capital and assets are not fully marked to market. Only securities in the bank trading book are marked to market, and the value of a bank loan is adjusted through provisioning of loan loss reserves. As a consequence, the adjustment of illiquid asset prices— $p$  in the model—is neither continuous nor instantaneous. It will fall slowly and

affect bank capital only if banks realize loss by accumulating more provision or by liquidating nonperforming loans. Even if the value of loan collateral such as real estate falls, typical banks maintain a buffer by imposing a loan to value (LTV) ratio that is significantly less than 1. In other words, an adequate bank supervision and internal bank risk management practice could significantly dampen the incidence of a systemic risk arising from the asset price side. Rather than falling asset prices, the credit crunch caused by reduced collateral values and aggravation of borrower credit risks may cause even more serious problems for the banking system.

Third, given the theme of the present conference, an extension of the model toward heterogeneous banks would be rewarding. Emergence of a few large banks and transition toward a more concentrated banking system may yield nontrivial implications for systemic risk potential and contagion patterns. The research would provide a clue for the necessity of differential treatment of large banks in liquidity and capital requirement regulations. Note also that a critical assumption of the present model is that asset prices are reasonably sensitive to the change in asset supply. However, in reality it is not likely for the failure of a bank and its liquidation to cause a significant fall in the asset price when there are many small banks. Still, the failure of a large bank in a concentrated banking system would make this model more realistic.

Fourth, the present paper suggests a set of interesting policy implications. One such implication is joint provisioning of liquidity and capital buffers. Note that current prudential regulation requires banks to satisfy liquidity ratios as a guard against duration mismatch in bank assets and liabilities. However, the present paper argues that an additional liquidity buffer may be necessary to cope with negative capital shocks. More importantly, to some extent, liquidity buffers are more effective than capital buffers if illiquid asset prices fall a lot when banks are selling into a falling market. Another interesting implication is the possibility of linking the liquidity requirement with capital adequacy requirement. Well-capitalized banks could be allowed to maintain a low liquid asset composition. However, as capital ratio becomes lower, banks may need to maintain a high liquid asset portfolio.

Finally, I want to add a comment on the role of the central bank in this model. According to the author, there's an important role for the central bank as a lender of last resort as timely liquidity provision is critical in mitigating the fall of asset prices and thus containing systemic risk potential. However, this implication is not directly warranted in the theoretical framework of the present paper. In traditional bank-run models, liquidity provision of the central bank could be justified as it lets solvent banks avoid inefficient liquidation of illiquid assets. On the contrary, in this model there is no direct mechanism through which the provision of liquidity can prop up capital ratios of troubled banks unless the provision is in

the form of equity participation or purchase of subordinated debts. The central bank may be able to support troubled banks only indirectly by mitigating the collapse of asset prices by monetary injection. However, the effect would be only temporary unless the central bank actually absorbs the excess supply of illiquid bank assets, which is highly unlikely in reality. In sum, to provide a rationale for central bank intervention in the present context, a more explicit mechanism must be introduced. Of course, all of these issues and questions do not undermine the contribution of the present work. Rather, these are left as interesting future research agendas.

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# Comments

Sung-In Jun

## Summary

This paper aims to identify external shocks, both permanent and temporary, to the Korean economy using the structural VAR technique and to analyze their implications for the financial system of Korea. It also uses microlevel data on the balance sheets of firms and financial institutions to test the existence of the so-called credit channel of the crisis. Specifically, several panel regressions are estimated where the default premium of a firm is regressed on firm-specific variables and also on several macrovariables. It is found that in the presence of the call rate, some idiosyncratic variables such as gearing ratio and/or interest coverage ratio become insignificant. Also the balance sheet data of banks and other financial institutions show that there is a significant amount of comovement in financial assets across institutions, thereby making them vulnerable to common macroshocks.

## On the Structural VAR

### Is It a Good Tool to Analyze Financial Crisis or Systemic Risk?

Financial crisis or systemic risk is triggered by a big negative shock. When this rare and unhappy event occurs, the economic system nearly collapses and the economy gets derailed from the old path discontinuously. The problem is that this process is usually perceived as asymmetric. In other words, a large favorable shock is not believed to cause a similar jolt to the economy (in the opposite direction, of course). There is general agreement among economists that a positive shock, however large it may be, simply boosts the economy along a historical path, while a negative shock, if it is big enough to deserve the name of systemic shock, will hit so hard that the economy will jump to a totally new path that is hardly anticipated by the past serial correlations.

To the extent that this is a true picture, VAR, be it reduced form or structural, is not a good tool to analyze the crisis, since VAR is a system of linear equations and hence symmetric.

### Choice of Variables, Estimation Period, and Recovery of Big Shocks

It is rare to use a default premium variable in a VAR setup. In this sense, it could be a contribution of this paper. There are, however, two problems here.



The first problem is that it unduly shortens the estimation period. The data points are around sixty, which is small considering that there are thirteen regressors in each equation. The loss seems all the more painful because the missing period of 1986 to 1988 experienced a very large favorable supply shock called the “three-lows.”<sup>1</sup> With the inclusion of this era, the system would have had both a big positive shock (the “three-lows” of 1986) and a big negative shock (the currency crisis of 1997), and it might have enjoyed a more balanced picture.

The second problem is that the measured number, calculated by subtracting riskless rates from the yields of investment-grade corporate bond, does not live up to the concept of default premium a typical firm faces in the capital market. Remember that before the currency crisis of 1997, almost all corporate bonds were explicitly guaranteed either by banks or by some government-sponsored guarantee funds. In short, there is no default risk whatsoever as far as corporate defaults are concerned. One can say that the variable still measures the default premium in the sense that banks and other guarantee funds themselves can go bankrupt. This is true, but different from what is discussed in the paper.<sup>2</sup>

### **Remedies Suggested**

One can try several remedies to the above problems. First, one can substitute the default premium of short-term interest rates for the long rates. It is true that interests on three-year maturity bonds are closer to the theoretical opportunity costs of investment. Short-term rates, however, can serve proxy variables since many firms, especially small firms, carry out investment projects based on short-term financing. For example, one may try the interest differential between CP and the Monetary Stabilization Bond issued by the Bank of Korea.

Second, one can set up a VAR with more “standard” variables to extract permanent and temporary shocks and use the recovered shock series to analyze the correlation between shocks and default premiums. For example, (a) set up a VAR with output, price, and/or money, (b) recover structural errors after identifying the system, and (c) run a default premium on current and lagged series of recovered shocks. Note that step (c) essentially tries to recover (the first approximation of) the MA representation in terms of structural errors.<sup>3</sup>

### **Discussions Presented in the Paper**

There are some minor points to mention. First, it will be helpful to present the unit root test result on GDP or the growth rate of GDP. Usually it is believed that the level of GDP is I(1), so that the growth rate is a stationary variable. This paper seems to treat the growth rate as I(1). Evidence is needed on that. Second, the argument presented regarding transitory versus permanent shocks is somewhat misleading, since what is really happening in the financial world is not that some kind of shock is realized ear-

lier (which is what Dr. Kang seems to try to explain), but that the financial world simply responds faster than others to the same shock (which is what the theory of forward-looking expectation implies). Third, the explanation given to the exceptional aggregate performance in 1999 (in relation to Figure 10.3, after the Daewoo crisis) is also misleading, since the data Dr. Kang used is seasonally adjusted and the growth rate is calculated compared to previous quarter, rather than to the same quarter of the previous year.

## On Microlevel Data Analysis

### Implicit Guarantee among Affiliates of Chaebol

The first half of section four is about the empirical relevance of the hypothesis that the capital structure of a firm affects its borrowing rates. One has to be careful, however, not to ignore the fact that sometimes looks can be deceiving. There is an explicit or implicit internal capital market within big conglomerates, and a firm that is affiliated can enjoy much softer budget constraints either in terms of quantity or in terms of price. Especially in Korea, *chaebol* are famous for binding their affiliates through cross-shareholdings and cross-guarantees. With this guarantee, even if implicit, an affiliated firm can enjoy far more favorable borrowing rates compared to similarly situated nonaffiliates, even in the external capital market. So the regression equation (4.1) would perform a lot better if there is a *chaebol* dummy.

### Importance of Collateral

Banks almost always prefer collateralized loans to uncovered loans. Firms without collateral, especially small firms, were often kicked out of the capital market or had to be content with whatever interest rates banks might charge as long as they could borrow. So the estimation results of equation (4.1) could be seriously flawed if the weight of the collateralized loan fluctuated significantly either serially or cross-sectionally.<sup>4</sup>

### Well-Diversified Portfolio and the Role of Common Shock

Unlike manufacturing firms, maintaining a good asset portfolio is what financial institutions are about. At least in theory, they maintain very well diversified portfolios so that they are vulnerable only to nondiversifiable shocks. So finding a significant role for common shocks may not mean much as far as financial institutions are concerned. In order to test the credit channel hypothesis, what really needs to be answered is whether there is a propagation of financial shock after controlling all effects of common or macroeconomic shocks. Showing the vulnerability of financial institutions to nondiversifiable macroshocks is not enough to reject the hypothesis.

## **Notes**

1. This period enjoyed low oil prices, low raw material prices, and low exchange rates vis-à-vis the Japanese yen (in other words, a strong Japanese yen against Korean won), hence the name “three lows.”
2. Of course, almost all corporate bonds were issued without guarantee after the crisis. So the default premium does measure what it intends to in the latter period. Anyway, it is simply surprising to see how rapidly the financial world adjusted to the new environment.
3. You can do even “impulse-response analysis” by perturbing structural errors. The only difference is that now they are explanatory variables rather than error terms technically.
4. Collateral is important in a theoretical sense in that it provides an important transmission channel for the propagation of shocks.

# Comments

Hong-Bum Kim

Although it looks lengthy at first, “Financial Supervision and Crisis Management: U.S. Experience and Lessons for Emerging Market Economies,” written by Barth, Goldberg, Nolle, and Yago, is a nicely written, concise piece of work in the sense that it condenses the whole U.S. banking history extended over the last 200 years. The paper views the evolution of U.S. banking as the serial process of regulation, circumvention of regulation (financial innovation), deregulation, and sometimes reregulation. In the process, banking legislation has certainly provided the context in which the depository institutions and the supervisory agencies interact. Probing into backgrounds, proposed changes, actual impacts, and ensuing problems of the respective major banking laws, the paper gathers up the threads to provide a broad perspective with which to understand the U.S. banking evolution in general as well as the disaster story of the S&L crisis in particular. Further, the paper sheds light on the current trends and developments in the U.S. banking industry since the early 1990s such as deregulation, consolidation, conglomeration, globalization, and technical innovation. Upon completion of its journey into the U.S. banking history with a special focus on the progress of the S&L crisis, the paper finally comes up with the following three lessons, which it finds helpful to emerging market economies:

- Lesson 1: “Be careful in limiting the activities of depository institutions.”
- Lesson 2: “Let market discipline work without interference.”
- Lesson 3: “Focus regulation on financial functions, not financial institutions.”

## On the Three Lessons

Considering the paper to consist of two parts—the U.S. experiences and the lessons—I find that the U.S. experiences part seems difficult to find fault with. It is a nice primer that contains an updated, inclusive picture of the U.S. banking evolution drawn in a balanced perspective. As for the lessons part, I understand that it provides some of the fundamental principles toward which regulatory legislation and policy should be consciously oriented in both emerging market economies and advanced countries. In this sense, I have no objection to each of the three lessons. I do, however, have some additional comment on each of them. Further, those lessons are about the *substance* of financial regulation. Emerging market economies may also be in need of lessons about the *institutional structure* of financial regulation with which regulatory substance incorporated in legislation

and policy will be put into practice by regulators. Let me begin by discussing each of the three lessons, together with their respective background contexts.

The S&Ls were initially heavily regulated to borrow short term and to invest long term in residential mortgage loans at a fixed interest rate. As the Fed tightened money supply in its fight against inflation during 1979–1982, the interest rate suddenly began to soar and most S&Ls went insolvent. Hence comes Lesson 1. This lesson is derived after the fact and is certainly sensible. But things may not necessarily be that obvious before the fact. To cite an example, there is no straightforward answer to the question “with respect to the extent to which banks are permitted to own nonfinancial firms and vice versa,” since it will depend on specific features of the country in question, such as historical evolution, political and cultural tradition, and financial structure.

Turn next to the background of Lesson 2. S&Ls that should have gone out of business in the early 1980s were in fact not closed. This was because their supervisory agency (FHLBB) and its deposit insurance subsidiary (FSLIC) chose to “sweep their problems under the rug in the hope that they would go away” (Mishkin 2004). FSLIC’s fund was far from sufficient then anyway. And Congress gave an indulgence to these regulators by enacting two major laws—the DIDMCA of 1980 and the DIA of 1982—which enabled them to lower capital requirements by expedience. This was regulatory forbearance that was soon to invite moral hazard—that is, “gambling for resurrection” on the part of the S&Ls. Things were thus driven on to the catastrophe thereafter. Hence comes Lesson 2. This lesson is absolutely correct in theory per se, but it becomes hard to abide by in practice since systemic concerns, being all too often politically motivated, will come to the fore, especially in emerging market economies.

Consider Lesson 3, which is somehow related to Lesson 1. The more diversified are the activities of a financial institution, the less meaningful becomes the traditional distinction between financial institutions—banks, securities firms, and insurance companies. If we regulate by institution (or sector) in this circumstance, competitive distortions and regulatory arbitrage will result (Lumpkin 2001; Di Giorgio and Di Noia 2001). There thus arises a need to focus regulation on financial functions. There is an important caveat, though. Prudential regulation by nature should not focus on financial functions only. This is because “it is institutions and not functions that become insolvent,” as Goodhart et al. (1998) once noted.

## On Institutional Structure

Now let me discuss *institutional structure*. By “institutional structure,” Llewellyn (2003) means “the number and structure of agencies responsible for the regulation and supervision of financial institutions and markets,

which includes the role of the central bank in this area.” I have noted earlier that the three lessons put forward in the paper are about the *substance* of financial regulation. Generally speaking, good regulatory policy (i.e., regulatory policy that incorporates good substance) is certainly of first-order importance in achieving the objectives of regulation, whereas good *institutional structure* is of second-order importance. However, the order of importance may be reversed in countries where institutional distortions are huge enough to prevent good regulatory policy from achieving the objectives of regulation. The issues that are covered under the heading of institutional structure of financial regulation and supervision include the optimal allocation of functions and power among the public agencies responsible for financial stability<sup>1</sup> and the interagency arrangements for information sharing and cooperation and for checks and balances and their *modus operandi*, respectively, in normal circumstances and in crisis situations.<sup>2</sup> Discussions on institutional structure are based on the proposition that “the efficiency of regulators and supervisors in achieving their objectives may be influenced by the particular institutional structure in which they operate” (Goodhart et al. 1998). Some rationales for this proposition are found in Abrams and Taylor (2000) and Goodhart (2000), as well as Goodhart et al. (1998). For example, regulatory efficiencies depend on regulatory culture as well as the skills and experiences of regulatory staffs, all of which in turn depend on institutional structure at least in the long run. In addition, regulatory overlaps and underlaps as well as the cost of financial supervision, and thus regulatory efficiencies, are all related to the choice of a particular institutional structure.

Regulatory governance becomes the main perspective that the theme of institutional structure offers, especially when it is applied in the context of emerging market economies. Regulatory governance refers to the independence and accountability of the public agencies responsible for financial stability. Quintyn and Taylor (2002) consider that weaknesses in regulatory governance were a significant factor that invited the East Asian financial crisis in the late 1990s.

Emerging market economies can benefit much, in terms of regulatory efficiencies, from improving upon regulatory governance. In this regard, some aspects of emerging market economies can be highlighted (Abrams and Taylor 2000; Goodhart 2000; Goodhart et al. 1998; Kim 2003). In emerging market economies in East Asia, there is a strong cultural tradition in which people tend to identify their own social status with that of the institution where they work. This may have something to do with Confucianism, which is deeply rooted in the region. There, less independence of the supervisory agency seems directly linked to lower quality and weaker achievement motives of staff. In addition, chances are higher that emerging market economies experience tensions or conflicts of interest between public agencies. It is because institutional division of functions

and power is often not very clear there. Even if such conflicts do occur, there may not be a well-defined resolution mechanism. Further, emerging market economies tend to be exposed to politics. It is easy to observe that the government is deeply involved, explicitly or implicitly, in the allocation of financial and/or human resources in the financial sector.

### **On the Recent Credit Card Fiasco in Korea**

I will conclude my comments with a brief mention of the recent credit card fiasco in Korea and on its implications for institutional structure.<sup>3</sup> Attributing the fiasco to supervisory failure, I conclude in my recent research (Kim 2004) that “supervisory failure . . . is mainly due to policy dominance that the Ministry of Finance and Economy has wielded upon the other public agencies [i.e., supervisory agencies (Financial Supervisory Commission and Financial Supervisory Service) and the central bank (Bank of Korea)] for years and to the resulting vacuum of institutional cooperation and checks and balances.” This finding clearly suggests the urgency of ironing out regulatory governance problems in Korea.<sup>4</sup>

In many emerging market economies, institutional structure is what matters most, as the recent Korean experience clearly demonstrates.

### **Notes**

1. Typically, the public agencies responsible for financial stability include the government (usually the Ministry of Finance), supervisory agencies, the central bank, and the deposit insurance agency. See Hayward (2000).
2. One of the issues of concern that the paper mentions at the end of its journey into the U.S. banking evolution is the question regarding “whether the current regulatory structure is in tune with the current and likely future structure of the [U.S.] banking industry.” This question also relates to institutional structure.
3. To quote *The Economist* (2004): “Credit-card troubles were caused by a giddy increase in consumer borrowing, which coincided with South Korea’s recovery from the 1997–98 financial crisis. . . . The government helped fuel the plastic craze by offering tax breaks for credit-card purchases. Between 1999 and 2003, the number of credit cards in circulation more than tripled and credit-card debt more than quintupled.” As a result of all this, both credit card issuers and households alike are currently in seriously bad shape.
4. In my research (Kim 2004), I discuss some ways to activate institutional cooperation and checks and balances. They include merging FSC and FSS not into a government agency but into a private corporation that is equipped with strengthened arrangements for independence and accountability and establishing explicit legal bases for active involve-

ment of BOK in maintaining financial stability and for a formal standing committee for interagency information sharing and cooperation. I also argue that in normal circumstances, MOFE must maintain an arm's-length relationship with the other public agencies.

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## Comments

Chung H. Lee

The paper by Barth, Goldberg, Nolle, and Yago, "Financial Supervision and Crisis Management: U.S. Experience and Lessons for Emerging Market Economies," presents a brief but succinct review of the evolving structure of U.S. banking, the banking crisis of the late 1980s and early 1990s, and the postcrisis developments. Given their good coverage of these topics, I have little to add to or comment on their discussion. I will thus confine my discussion to the three lessons that the authors draw for emerging market economies from the U.S. experience. But before I do that, I would like to first discuss a lesson I myself have drawn from reading their paper.

The lesson is that laws and regulations are made in the context of extant technologies and social conditions, while technologies are ever changing and social conditions vary from country to country. As the authors point out, laws and regulations are created quite often in reaction to actual or anticipated problems, and they may be quite adequate in preventing the recurrence of similar crises under the same social and technological conditions. But given that technologies never remain constant and the market forces that new technologies engender likewise change, the laws and regulations on the books eventually become inadequate to prevent a new crisis.

The geographical banking restriction that the authors discuss is a case in point. Through the nineteenth century and the early part of the twentieth century, the restriction was probably not too costly to society given the relatively underdeveloped state of communication and transportation and given the limited geographical boundary of what people considered to be a community. With improvements in those technologies, however, the restriction became burdensome to society by becoming an artificial and binding barrier to efficient allocation of funds. Concurrent to that change was the expansion of the geographical notion of community. It is my reading of U.S. history that before the Civil War, people in this country generally identified themselves as citizens of a state and not as citizens of the United States. It was the Civil War that expanded the notion of community to the level of the entire nation. It was thus changes in technology and the geographical notion of community that made the cost of geographical banking restrictions become too costly for society and generated political support for change.

I now turn to the three lessons that the authors draw for emerging market economies.

I find the first lesson (“Be careful in limiting the activities of depository institutions”) to be eminently sensible. The devil is, however, in the details. Apropos to this lesson is the authors’ statement that the relatively dismal performance of U.S. depositories in the 1980s and early 1990s had to do with “overly restrictive laws and regulations on depositories,” as they tend to inhibit their ability to adapt to changes in technology and market environment. The questions are: (1) What constitutes *overly* restrictive laws and regulations? and (2) How do we determine whether they are so or not before a crisis is upon us?

The authors’ statement that most bank regulations have been reactive and not proactive to actual or perceived banking problems is absolutely on the mark, but again the question is how to make laws and regulations to be proactive and not merely reactive, especially when financial markets are, as the authors say, dynamic and not static. If financial markets are dynamic and ever changing and technological changes that drive the evolution of financial markets cannot be predicted, how can the regulators devise laws and regulations that will keep the financial system dynamically on a “safe and stable” path? Perhaps, following Mr. Jordan’s suggestion, we might place on the regulators the burden of proving a new product or activity too costly for society and stop it from being introduced only if they prove it to be so! But for such a system to succeed, we will of course need to have regulators who possess the technical competence to carry out cost-benefit analysis and do it, furthermore, with independence from political and interest group pressures.

The second lesson (“Let market discipline work without interference”) is again a good idea in principle but may be difficult in implementing. Is the market solution always the best? Should we, for instance, have let Chrysler go bankrupt instead of helping it with a government loan guarantee? How about the major airlines that received government subsidies after 9/11? If, as the authors say, adverse movements in interest rates had devastated the savings and loans in the 1980s and 1990s, their financial health would have been restored with opposite movements in interest rates. If that actually happened quickly enough, I would hazard to guess that regulatory forbearance would have been less costly to society than to have some of the savings and loans shut down. Would the market have predicted the movement in interest rates correctly and have taken appropriate market discipline on savings and loans? The point is that whether regulatory forbearance is too costly or not is easier to judge after the fact than before.

Again, with the third lesson (“Focus regulation on financial functions, not financial institutions”), my quibble is with the difficulty in implementation. Their point that banks are now only one of many financial intermediaries and that their regulations should thus be designed as part of the process of designing an appropriate overall financial system is on the

mark. But again, how practical is it to do so in emerging market economies where banks are still the dominant financial intermediaries? Also, in terms of actual supervision, how difficult would it be to regulate a subset of a firm's activities instead of the firm itself?

My final comment has to do with the appropriateness of the three lessons for emerging market economies. Are these economies different from both fully developed and developing economies? If so, what are the characteristics that differentiate them from the other two groups? If emerging market economies are indeed different from, say, that of the United States, how appropriate to them are the lessons drawn from the U.S. experience? One thing that my research on the Asian financial crisis of 1997 has taught me is that for financial liberalization or deregulation to be successful in bringing about a safe and stable market-based financial system, a country needs to have a number of institutional preconditions. Thailand, for example, was ill equipped before the crisis to handle huge capital inflows, as it lacked sound financial institutions, markets, and policy instruments. Indonesia was another such country; although it had an adequate provision of prudential rules and regulations on the books, it lacked legal and accounting systems that could effectively enforce prudential regulations and supervision. If emerging market economies lack some of such basic institutional preconditions for a sound market-based financial system, we must then ask how appropriate to them are the lessons drawn from the U.S. experience, especially when my reservations with the authors' three lessons has to do basically with difficulties in implementing them. The authors of the paper have done an excellent job in drawing lessons from the U.S. experience, but what still remains to be done is to demonstrate that they are indeed appropriate to "emerging market economies."

## **Part III**

# **Major Policy Findings and Implications**

## Roundtable Discussion

*Dr. Choongsoo Kim, Chairman:* I have attended a lot of conferences, but I find this conference one of the most valuable, with lively discussions. I am very impressed and pleased with the results. Not only were all presentations outstanding, but also the commentators made great efforts to provide informative insights.

Now let me proceed with the roundtable discussion. As you know, KDI is a policy research institute, so we must draw up some policy recommendations for the government. In this respect, we are fortunate that Deputy Minister Byong Won Bahk from the Korean Ministry of Finance and Economy (MOFE) is here with us. Before we begin, let me give Deputy Minister Bahk an opportunity to say a few words about some of the issues discussed during the conference.

*Deputy Minister Byong Won Bahk:* For the past twenty-nine years of my career, I have attended numerous conferences—academic or practical—but I have never seen as sincere and enlightening a meeting as this. Though I have a few questions I would like to raise. As I have mentioned yesterday, the Korean government's firm position is to establish an independent and competent regulatory agency. The consolidation of regulatory agencies, which resulted in the establishment of the FSC (Financial Supervisory Commission) and FSS (Financial Supervisory Service), was actually initiated by the MOFE and was made possible only by the help of the IMF after the 1997 financial crisis. I would like to remind you all of the fact that throughout 1997, MOFE tried to establish an independent, ministerial-level, strong agency in order to strengthen prudential regulation but was frustrated by the opposition of vested interests of the existing regulatory bodies. MOFE is still trying to clearly define and really make more independent the financial supervision. The problem is that in Korea, we have not been able to build consensus on the organizational structure of financial supervision.

With regard to the consolidation of financial laws into one statute, I do not have a firm belief yet. I am not even sure whether it will be possible or not in the face of the deep-rooted tradition of the continental civil law system. I think the new trends in the finance industry—such as consolidation, conglomeration, and globalization—can only be achieved by pursuing financial liberalization and deregulation. But the move in this direction is usually initiated and led not by the interested business groups but by MOFE against strong opposition of vested interest and sometimes the ministries and politicians representing them. In most cases, the private circle calls for more protection of prolonged privilege and is not usually willing to accept the necessary and inevitable changes. I understand that consoli-

dation of financial laws is not in itself a logical necessity to meet the new trends in the finance industry. But this time again, as was the case in establishing a consolidated regulator in 1997, difficulties may come from political reluctance.

But the most important thing that I have learned here is that agencies and laws, whether they are consolidated or not, cannot solve the problem without the necessary infrastructure in place. It seems to me that the United States is doing fairly well without a consolidated statute or regulatory agency. I think they might be necessary conditions but not sufficient. The lack of adequately experienced and trained staff of financial companies, as well as informed consumers, are challenges faced by Korea. In Korea, most people feel financial companies do not have the experience in evaluating and taking on financial risk. By and large, they have been dependent on implicit government insurance. This may be another cause of herd behavior among financial companies in Korea, and it is the greatest obstacle to developing Korea's capital market coupled with Korean's inclination to be risk averse. It's striking to me to know the fact that even the UK's FSA feels that financial capability initiative is necessary. The necessity is even stronger for Korea. In concluding, I would like to ask if any of the participants have any other ideas that can help prevent or alleviate herd behavior.

*Chairman:* Thank you. As Deputy Minister Bahk has said, herd behavior emerges as an important policy issue in Korea. But let's discuss it a bit later, along with the issues of systemic risk and moral hazard. But before we do, let me talk about what Professor Jackson hypothesized, in that regulatory intensity has something to do with cost and efficiency of regulation. I think that is right; however, if we apply this to other economies, what we find is that in some economies like Korea, achieving high regulatory intensity may not be necessary. Why? It is because Korea has a rather strong government. The Korean government tends to make ex ante intervention rather than ex post monitoring. Therefore, policy and regulation are very closely correlated—probably inversely correlated.

So, let's raise the following issue. Korea is trying to follow the UK's regulatory structure as far as financial supervisory authority is concerned. Mr. Foot said there are four objectives of the FSA: maintaining confidence in financial stability, promoting public understanding of financial issues, consumer protection, and reducing financial crime. Those were the four explicit objectives of FSA. For Korea, if you take a look at the FSC Act, what you find is that in addition to those four objectives, the FSC has to take into account national economic development as well. And this is to a certain extent a dilemma for policy makers and financial regulators. Let me first direct my question to Mr. Foot, then to Commissioner Collier. Can you give us examples of certain kind of conflicts between these two policy

objectives? So as a regulator, do you think you should take into consideration the state of the economy? And if so, to what extent?

*Mr. Michael Foot:* To answer your question Mr. Chairman, I think the way we try to deal with this is as follows, although we do not have an explicit objective of the kind you described for Korea.

We could see that there was a risk we would be criticized if there were a situation like this. The way we try to deal with it is by saying up front, right from the very beginning, that there were certain features of regulation which in the long run would benefit the economy even if in the short run there appeared to be a conflict. So for example, we wanted to have higher standards of dealing with insider trading and market abuse than the European minimum standards were. This was because we thought that countries having good records of market abuse actually have a lower cost of raising capital for companies. So we said, we are often going to go for higher than the minimum standards, because we think in the long run this will benefit the UK economy. Now, we have not fortunately for a long time had a situation, for example, where monetary policy and regulatory policy were at loggerheads, as you obviously had in 1997. But we've recognized the possibility that this could happen. All I think one can do in that situation is to make sure that the matter is brought to the highest level of government. It's going to then require a political solution. What we have done on occasion, because these four objectives can conflict, is to reach a judgment, giving priority to one aim and not to another. The best example is on money laundering after 9/11. Many new measures were proposed. When we did a cost-benefit study, this showed the cost would be several hundred million dollars a year to the banking sector. And we could see no identifiable benefit in terms of reducing terrorist financing. We said, frankly, we are not prepared as a regulator to put these measures into place. And after some surprise, that decision was actually widely accepted.

And so the basis we laid out in open consultation, endless cost-benefit analysis, endless subjecting of new policies to critical review has from time to time helped us. But we set out the ground in advance. I think that's all I can suggest. Occasionally, there'll be cases where you do have conflicts. I think all you can do is set out the ground rules as best you can.

*Chairman:* Thank you, Mr. Foot. Commissioner Collier, is there any case where your industrial policy conflicts with your regulatory policy?

*Dr. Berna Collier:* I am trying to think of an example where it does and I really cannot think of any particularly striking example. I was just looking at our aims here at ASIC, our statutory objectives, which are to maintain facilitation and prove the performance of financial systems and entities within that system similar to what Mr. Foot was saying before in relation to the UK. I can think of some small examples, which may be illustrative. I am not sure if they answer your question, though. One, which I have mentioned before in relation to this, is like a small economy thing

rather than a big economy issue. And that is as a market integrity regulator and not as a prudential regulator. One slight difference, though we have some things in common with the FSA, obviously not totally in common, is our obligation to ensure that the market is informed at the end of the day no matter what. In theory, if there is a choice between depositors being protected and the market being informed, our role is to protect the market—not to protect the depositors in an organization like a bank. Having said that, we face the reality that if where we have our own prudential authority (APRA) working with banks to protect depositors, it is not responsible for us to ignore the work they are doing. After all, we are on the same side. They are another government agency like we are, and it is part of the twin-peaks role. And the way we deal with this is by working with them. We have a strong working relationship with our fellow regulator. To try to work through any conflicts we have and continuous disclosure obligation of listed companies in Australia, is one where we have the potential of going head to head with our brother agency. We must work to do all we can to make sure that the whole financial system does not lose its integrity in Australia.

Another example of where we try to overcome problems inherent in our financial system, because we have our own role to enforce the law, is when sometimes business will come to us and say: What you are asking us just doesn't allow us to work. It doesn't allow us to run our businesses. In this situation, what we will do is to consult. We will go to government if necessary and say, look, this is not working. In the meantime, we have a limited ability, as part of our own legislative system and our own legislation, to modify the law—and to exempt parts of the business community as is necessary, or indeed, the whole business community as is necessary from operating with the laws of certain periods of time. And we can do that pending a realization by the government or pending on our discussions with the government that something is not working. So, there are possibly two illustrations.

*Chairman:* Let me ask a similar question of Professor Jackson and Dr. Barth from the United States. As we have discussed, Korea's economy is more closely related to the U.S. economy. However, Korea has adopted the UK type of institution for financial supervision. For the United States, since functional regulation works well, there is no need to pay a lot of attention to institutional reforms. As far as I understand, the U.S. made some substantial efforts in the late 1990s to reform supervisory institutions, but since you have a long history of separate independent institutions, therefore it was not easy for you to come up with an agreed proposal for an institutional reform. In any case, I think the United States is probably the only economy in the world where market principle functions well. Besides in the U.S., why can't genuine market economic principles function well? Is this due to the small size of the economy, where there are



fewer suppliers and demanders, in which free competition cannot function well? When I lived in Paris, what I learned was that one of the motives for the European monetary union was probably to create a large market economy to compete with the United States. It was probably part of the main reason, and not all. So assuming that functional regulation works reasonably well in the States, are there any examples where policies and regulations conflicted each other? Secondly, what is your view on the future prospects of revising your supervisory institutions?

*Prof. Howell Jackson:* Well, let me start with the first question. In my experience, the United States has definitely faced examples where financial regulatory reforms have had negative policy implications for the broader economy, at least in the short term. So there are examples where financial regulations conflict with other government policies. For example, if you look at the timeline Professor Barth was discussing in the early 1990s when the United States substantially raised the capital requirements of banks, there was a pretty substantial negative effect on the commercial real estate market in the U.S. In the 1992 presidential election year, that effect may well have had negative consequences on the incumbent. So financial regulatory reforms can have unfortunate consequences for the economy, at least in the short term. But raising the capital requirements for banks in the early 1990s was an appropriate decision, in my view, for the long-term health of our banking industry and the economy at large. More recently, the Sarbanes-Oxley Act in the securities field is another example where U.S. financial regulatory reforms have had real and potentially problematic economic consequences. At least every CFO and CEO in the U.S. has complained about the costs of our new corporate disclosure requirement, and many foreign issuers have also bitterly complained about the act's new requirement. It remains to be seen whether the Sarbanes-Oxley was a wise regulatory reform. But the act definitely represents a regulatory policy that had macroeconomic effects. So I think the choice between financial regulatory reform and short-term economic costs does come up. The fact that we are in a deep market structure does not mean we don't have to make those choices occasionally and also suffer the consequences.

In terms of the second issue the chairman raises, I think that the regulatory structure in the U.S. is unique and is not likely to change substantially anytime soon. As I mentioned in my paper, there are many things about the U.S. that make it quite difficult for us to go to any form of consolidation similar to the FSA in the UK. I also think the reforms we engaged in in the late 1990s, while they were denominated functional regulation in certain areas, we still basically have an institutional-based structure of regulation in the U.S. I think that what has been important has been the coordination mechanisms that we have put together connecting our principal banking regulators with the Securities and Exchange Commission (SEC) and to a lesser extent with the insurance regulators.. To some

degree, it's very similar with what goes on in the FSA and consolidated agencies. They have coordination issues, and there are a variety of ways of solving them. Australia solves them in different ways than the UK does. And, we solve them differently, too—for example, through memoranda of understanding and interagency consultation and coordination. While it's a bit cumbersome, our alternative approach to coordination seems to be working reasonably well. My guess is that the U.S. would be a more efficient economy if we resigned ourselves to our institutional structure somewhat. But, I think it's a relatively small issue in the greater scheme of things. Much more important is the substance of the regulation rather than its institutional form.

*Chairman:* Professor Barth, you served as a regulator under President Reagan. Was there any case that your decision could have been different had you been a lawyer rather than an economist?

*Prof. James Barth:* No, of course not. Seriously, I'm not so sure of the counterfactual since I'm not an attorney. One could turn it around and ask, Would an attorney make different recommendations had the attorney been an economist? I don't know for sure, but I did work closely with attorneys as a regulatory authority. I know of no group of professionals in the regulatory agencies in the U.S. that puts in more hours and is more dedicated than the attorneys, and that includes the economists. When I worked, the attorneys were always there while I was there, night and day, always on call. I don't know what it is about this group, but they worked very hard and were very diligent. And I always felt quite confident in my decisions. I don't know of any different decisions I would have made as an economist. I have recently been advising the People's Bank of China. I am the team leader of a group of about twenty members, and I think I am the only person that is not a lawyer. The Chinese requested that an economist be the team leader, and it is quite interesting working with mainly attorneys. I won't go into the various reasons why; suffice it to say that we worked in a complimentary fashion. It's not as if attorneys and economists are substitutes for one another. I think the attorneys I worked with know a fair amount about the financial issues and regulatory issues. So I don't think that we are substitutes. Instead, I think we are compliments. And it's best to have both types of professionals in an agency. We had both in the agency where I worked. I've worked closely with Julie Williams, who is now the general counsel at the Office of Comptroller and Currency, and she writes more papers than many economists. So she's quite competent, with respect to both legal and economic issues.

*Chairman:* Let me ask a somewhat different question of Professor Kanda, Professor Kon Sik Kim, and Professor Chung Lee. I have thought that institutional reforms have not succeeded primarily because the mode of behavior and way of thinking of economic agents failed to make necessary adjustments. For Korea, in the course of rapid changes in the past few

decades, without making due changes in the way of thinking or behavior of people, the government tried to experiment with new institutions. For Japan's and Korea's financial systems, we have basically learned from the experiences of Western countries. For the case of Korea, I think that the financial illiteracy of the general public poses particularly a very serious problem. Although one of the objectives of financial supervision is to promote the public's understanding of financial issues, I think the Korean government has not made much effort in this direction. For both Korea and Japan, financial restructuring has attracted much public attention during the past few years. In terms of raising public awareness or changing the way of thinking of economic agents, what kind of efforts do you think are necessary?

*Prof. Hideki Kanda:* I was very impressed by the remarks by Mr. Bahk. Japan has many things in common with Korea. There are bureaucrats who are very poor but are dutiful, while many others are forceful. Although I am not in the Japanese government, our law school has a tradition of graduating bureaucrats, some of which are very good and hold positions at the national level and are involved in policy making. And therefore, I happen sometimes to work closely with them and the government. My experience shows two things: One, the Japanese economy has been indeed managed in a very restrictive regulatory environment including the financial sector and so forth. However, Japan clearly has taken the policy of changing to a more free and fair one than those environments in the past. But, here is the problem. Japan tries to remove or be ex ante preventive regulation in the financial sector. Japan tried to remove that and tried to substitute with more remedial things. In regard to the problem of conflict between policy makers and regulators, in Japan the financial sector has a very small part in Japanese politics as well as in the national economy. Since politicians place attention on other things, the Japanese people do not spend much money and do not talk much about the financial sector. Therefore, the result is that staff members at financial agencies tend to be quite limited.

Theoretically, I think causality is the problem in terms of the situation described by Professor Jackson. So, in Japan we started out with a given number of staff. It's much easier if you could maintain more ex ante preventive that can be easily managed by a smaller number. But we thought it would not work. And therefore, our question in Japan was how to move from ex ante preventive to an ex post remedial situation. However, we cannot change the staff members because of political constraints and other constraints. Therefore, we have to maintain a small number of staff members. We have been struggling with this dilemma. But, I think if Korea could drastically increase the number of regulators or staff members of FCC or FSS, then you get a very different picture. But if Korea is unable to increase the number of staff members, then Korea may have the same dilemma as Japan. In other words, how can you move from ex ante envi-

ronment to more ex post remedial regulatory structure? That is a difficult question. But for Korea, the Japanese experience may be of some interest.

Second, I think that Japan has exactly the same dilemma as Korea regarding policy conflicts. It is a very interesting question. In Japan, we generally distinguish two things: crisis management and other things including active regulatory reform. Also, we distinguish, generally, global standards and national interests. For the former, crisis management is much easier. But it is more difficult to change the statute including the possibility of having one confident relaxation in order to produce or boost our national economy or more forward-looking reform. And similarly, Japan generally takes into consideration global standards like Basel, IOS, and so on. However, once those standards are there, a review is done when we do some reform domestically. On the other hand, Japan of course is aware of how to boost or support domestic and national interests. And that's the general approach. Let me give you some specific examples. Such as, how do you help boost industries in Japan? We tried to do a couple things. One is that we tried to encourage new entries. In the case of good companies like Toyota and Sony, we encouraged their entry into the financial business. As a result, we tried to let Sony establish a bank. The hope was that this would give way to new thinking, new ways, and new ideas in the banking sector. And to do so, we made a special statute with a very different structure with banking coding from the U.S. We did this in 1998. And the other example, we tried to create new business in the financial sector. To do so, for instance, in terms of the holding structure of investment securities, we decided to completely dematerialize share certificates and bond certificates. It may be five years from now, but we are hoping this can lead to the creation of new businesses in this area, such as securities clearance and settlements and so forth. And so, this is a way of creating new businesses in the financial sector. The last example is a little complicated. But because Japanese people are very risk averse, we tried to establish some legal framework for maintaining the confidence of the general public in the financial system as well as capital markets. One way to do this was to introduce special deposits—that is, deposits would be 100 percent guaranteed, insured by the government. The rationale behind this was to protect the payment of settlement system. Though functionally the thinking is the same, this is not a formal lender of last resort, and it is very unique to Japan. By doing so, before we could keep the complete confidence of the general public and we tried to prevent them from moving away from bank deposits from the financial system in general. And that is the third example. I'm not sure those examples will be helpful. I think that some of those Japanese experiences in recent years might be helpful in Korea.

*Chairman:* There are many similarities. But I am struck to hear that the Japanese government is allowing industrial capitalists to enter the banking sector. Let me now turn to Professor Kon Sik Kim. In regard to revisions to

the consolidated financial service related laws, do you take into consideration the general public's awareness? Establishing a new law is one thing, but if people don't observe the law, it cannot be effective. In case of introducing a new law, how many economic agents, do you assume, know about a new law?

*Prof. Kon Sik Kim:* Certainly, we are mindful of the problem in drafting a bill. First of all, as I told you, one of the reasons why we try not to change the substance very much is to make this new law as familiar as possible to those people in the financial industry. So we would like to limit any substantial revisions to the minimum. It is easier to make some changes afterwards, if you have one law instead of twenty-five laws. Also, it's easier for people in the industry to understand the contents of the regulation if it is just one law instead of twenty-five laws. Of course, I don't claim that having one law is a kind of tendency or norm—not at all.

May I try to answer one of the questions you raised? After this conference, I have realized as a lawyer, I must be very careful when I make some remarks related to empirical questions. I also admit that institutional changes are very difficult. But I think as far as this unification of various regulatory agencies into one single mega regulator in Korea, FSC and FSS, it was a good thing, though it may not work perfectly at the moment. I think if we had three or four different regulatory agencies fighting each other, it would have been a mess. I think at least having one regulatory agency we can find a better solution rather than having three or four different regulatory agencies.

*Prof. Chung H. Lee:* I take it that your question or statement is that reforms do often fail, right? In the case of Japan, the reforms after World War II were successful, although gradually there were a lot of adaptations and changes after the initial reform. Reforms sometimes succeed and sometimes fail. In my view, there are three factors that determine the outcome of a reform. The first is whether a country has an ideology or a model to guide its reforms. Unless there is a model to follow, it has no blueprint to guide its reforms. In the case of the Meiji Reform, the westernization was the model or ideology that guided the reform. Japan borrowed institutions from the West, including the United Kingdom, Germany, Belgium, and France. After World War II, it was the United States that provided the model for reform. Its constitution was copied from that of the U.S. As a matter of fact, the person in charge of writing the Japanese constitution was a young American woman. The second factor is interest politics: Who are the gainers and who are the losers from reform? Usually potential losers tend to be better organized and able to mobilize against the change than potential gainers. As pointed out by Mancur Olsen, societies generally fail to carry out reforms that would benefit the entire society because powerful interest groups are able to block such reforms. The third factor that determines the outcome of a reform is informal institutions. Informal

institutions are culture, norms, taboos, and so on and are deeply rooted in the tradition of society. They don't change easily and quickly. Formal institutions are statutes, the constitution, laws and regulations. Institutional reform often involves transplanting formal institutions from another country, and, as many studies have shown, such transplantation would succeed only if they were compatible with countries' informal institutions.

*Deputy Minister Byong Won Bahk:* How can you explain the widespread complacency in Korea? Korea has no reason to feel superior to Western countries.

*Prof. Chung H. Lee:* I think Korea is in a very difficult situation now. But there is a time lag between reality and perception, and it will take some time for perception to catch up with reality. It may require another crisis in Korea before people realize that their institutions may have to change. I hope it doesn't happen that way.

*Chairman:* Let me ask one more follow-up question. I think one of the more important issues related to financial supervisory services in Korea is the lack of qualified human resources at supervisory services. So, I think we need to pay more attention to educating and training the staff at the supervisory agencies. Because in Korea, in the past, the government didn't pay much attention to monitoring and supervision. But with further liberalization, the government intervened less in the market. In this case, supervision must be strengthened. In order to supervise the market, those who supervise should be at least as highly qualified as those doing business in the market. But as you know, in almost all countries, the salaries of public servants or salaries of supervisory institutions are usually lower than those of the private sector. So it is difficult for them to compete. I think this is probably the single most serious problem in Korea, but little attention has been placed on this problem.

*Dr. Berna Collier:* We face this problem all the time. And what you are saying is absolutely right. Sometimes I sit around the room and look at our executive directors and say, what are you doing here, when they can be outside earning three times as much. And I know what they are doing there. I sort of figured it out after two and a half years at ASIC. One is that they like the work. So, I think the quality or the interesting work should never be underestimated. So, I think that interesting work with flexible and good work conditions are things the public sector can provide are also something that often the private sector cannot or will not provide. Things like study leave and other studying opportunities, as well as things like maternity leave, and sometimes part-time work. These are the sort of things which we offer our employees to try and keep them.

For instance, we have a particular unit in ethics, which is dedicated to insolvency work. For this group, we get people to come from outside to work in sort of strictly supervised condition for up to a year. Now, obviously you've got to be careful with that because they will then go back out.

However, we promote to the firms, as a way of building relationships with them. And they are very keen to build relationships with us. I think that the interest factor and the networking factor and I guess the status factor of working for a regulator is something that should not be underestimated.

*Mr. Michael Foot:* Those are some of the things I would have said, too. I think also just to cover a point: We try to look, and I'm sure they do too, at a variety of sources of employment. We want some people who can provide continuity. For that, we go and try to recruit the best graduates. We offer one of the best graduate training programs in the city of London. Further, we offer a reasonable salary, but it's not as good as Goldman Sachs or whatever. But for the first two and half or three years, the training program we offer is as good as any of the other firms. And that has become known in the universities. And then we try and promote those people and develop them quickly—so that they feel the continuity and loyalty to the organization. In contrast, many private sector professionals in the financial sector do one thing very well. We need some of those but not that many. Finally, I'd like to reemphasize the importance of flexibility in a regulator offering possibilities like career breaks and so on. In the FSA we are attracting a varying number of young people, including many accountants and lawyers that place importance on work-life balance and work environment that they cannot get in the private sector; and for that they are prepared to forego high salaries.

*Chairman:* Now let me introduce a government official from the Korean Financial Supervisory Commission (FSC). Mr. Hong is now serving as deputy director at FSC. I would like to give him the opportunity to make some comments in regard to the FSC and the topics covered during the conference.

*Mr. Myung Jong Hong:* First, I think there is some misunderstanding in regard to the relationship between MOFE and FSC and FSS among people in the private sector and academia. As a staff member of FSC, I have never felt that MOFE intervened or influenced in the daily operations of FSC. Sometimes I cannot understand why some scholars believe that MOFE intervenes. I really want to say that FSC and MOFE are totally and completely and legally independent of each other, even though they need each other's help and cooperation. Also, I would like to say that FSS is not under the control of FSC. In reality, it is impossible for the FSC, which has a little over 50 employees, to control the FSS, which has nearly 1,500 employees, even though FSS is legally under control of FSC. And now, I would like to say that there is some misunderstanding about the way the financial supervisory body is being consolidated. I do think that the supervisory body should be a private entity and should have administrative powers such as lawmaking, licensing, applying sanctions, and so on. But there may be some constitutional or legal issues. My experiences in law

and government tell me that those powers cannot be delegated to the private sector according to the current Korean constitution. That is, rule or lawmaking power exclusively belongs to the National Assembly, which can be delegated by the president and executives by way of a presidential decree. But to my knowledge, I don't think that powers of lawmaking can be delegated to the private sector. In short, I think the problems regarding the financial supervisory system are not due to a lack of independence but rather a lot of vagueness exists in the role of distribution among the agencies. For example, though lawmaking powers originally belong to the FSC, they are in fact performed by the FSS. So, if such vagueness is made more clear, then Korea's financial supervisory system would be much better.

*Chairman:* Now let's turn to the issues regarding systemic risk, moral hazard, and herd behavior. For those not familiar with "herd behavior," when the Asian crisis occurred in late 1997, many scholars studied the causes of the crisis. And one of the theories that emerged, which tried to explain the causes, was herd behavior. There are several reasons for herd behavior, such as asymmetric information and differences in incentives. Basically, if one individual or group leads, and all others follow the leader, then as a result the whole system can become vulnerable to external shocks, which can lead to crises. As the deputy minister mentioned, Koreans tended to become risk averse. Professor Kanda agreed that the Japanese people also tended to be risk averse. I would like to direct this question to Professor Hyun Song Shin: How can herd behavior be explained? Do you really think it can lead to a crisis? And is it unique to Koreans or Asia in general?

*Prof. Hyun Song Shin:* That's a very deep question. I'm not sure I can do full justice to it. But I would like to just share some reflections on some of the big themes that bear on the issue of herd behavior. If we look at some of the big themes on the reforms of institutions, we have topics like reform of corporate governance, accountability, disclosure, transparency, and market forces. Now, these issues have been very important in addressing issues of governance abuse under the cloak of opaqueness and, of course, moral hazard. These big themes have shone a very bright light on a very dark corner; really contributed to the improvement of governance, and given a big impetus to institutional change. But if you think about these types of issues, these are precisely the type of concepts which also have spillover effects onto what you call herd behavior. I think it's probably better to describe it as being more constrained behavior or behavior which is constrained by shorter horizons. The flip side of accountability, of course, is that you need to be able to demonstrate that you have been doing your job. For instance, if you are a fund manager, you have to have a very close eye on your short-term performance. If you have to go and explain your performance to the trustees of a pension fund, you have to demonstrate at the end of each quarter that you have been doing your job



properly. And if you haven't been trading, then, of course, it's very difficult to demonstrate that you have been actively doing nothing. It could be that the best thing possible was for you to do nothing. But it's actually very difficult to actively do nothing. In the case of LTCM (Long Term Capital Management) and other hedge funds, it's very difficult again to demonstrate that you have been keeping free capital in order to profit from market distress when it arises. When you suspect that there will be, very soon, a big market crash, therefore the most prudent thing for you to do is to stay out of the market and keep everything in cash. But of course, if you're a fund manager this is a shortcut to losing your mandate from the trustees. So, the flip side of accountability is short-term behavior—the horizon becomes shorter—because much more subtle issues of agency problems are manifested in the necessity to demonstrate that you have actually been doing your job. And this is not related simply to the private sector. If you think about, as you mentioned earlier, the clause about contributing to national economic development, there is a very similar issue that is affecting monetary policy in all central banks. And now many countries are following New Zealand, including the UK, with an explicit inflation-targeting regime where there is a numerical target for price inflation. It's one of the big dilemmas for central banks in conducting monetary policy. When you have such a numerical target and if you believe that there is in fact a property bubble going on, it is in fact very difficult politically to justify heading off that property bubble through monetary policy because you are constrained by the mandate given to you by your national assembly through the central bank act, which says it is your mandate and you must keep that. Again, it's a very subtle version of the same incentive. It's an agency problem between the electorate as the principal, through the elected government, to the agency of the central bank. Again, you have to demonstrate that you are following the rule and the spirit of the mandate, and yet there may be this very gnawing doubt. So there is always this flip side of accountability and transparency, and marking to market is of course a very good aspect of transparency. In transparency, we need to mark to market because we need to know the truth. What could be a better example of the truth than the cold fact of the market itself? But as I hope to have shown this morning, there is of course a very dark side to that transparency because prices not only shine a light on the truth, they also provide an imperative to action. And therefore, you have this feedback. If that is combined with the short-term horizons that arise, that will also lead to what looks like herding. In my theoretical work, I have tried to argue against such behavior being labeled as herding. Herding, I think, gives too little credit to the intelligence of the people working at the coal face, as it were. If you think about the people actually working at the computer stations or the daily decisions at the portfolios, frequently these decisions are the best decisions these people could make under their individual circum-

stances. It is just that the externalities that spread from one agent to another cannot be taken into account when decision makers make that decision. So if everyone else is selling, it is in fact not only your optimal choice but also your duty to also sell as a way of minimizing your losses. But of course, it's very difficult to internalize the externalities that actually cause the problems. So what is the response? Clearly, there are two aspects. One is that you have to set the right ex ante incentives. You have to draw up the rules in such a way that these problems are minimized and they apply both to the private sector and public sector and to inflation targeting and the dilemmas the central bankers are really facing now in the UK, Australia, and to a certain extent also in the U.S. about the balance that is struck between financial stability and monetary stability. It is a variation of the same issue, which has been projected onto the larger states for the public sector. So that would be the optimal response. But also, there is a role for ex post policy response, which is the variations on the lenders of last resort. We didn't really have time this morning to discuss these issues. But we can think of a much more imaginative policy where—even though there are very big taboos against the central bank taking on credit risk on its own balance sheets—we may think of policies where the lender of last resort function could be extended, where the credit risk could be minimized; where, for example, you can get the needed private sector firm to sell the asset, or rather do some kind of REPO transaction. After one of Dr. Barth's very sharp V-shape bounces, you can then return and receive the asset back in return for giving back the loan from the central bank. And I think the Bank of Japan (BOJ) faced this very recently: the debate about whether long-term Japanese government bonds could be bought by the central bank—whether that could be part of their portfolio. So these issues will arise in all respects. It's a balance between transparency on the one hand and opaqueness on the other. The balance in the case of Korea should be toward more transparency. But I would caution against what I may call a more utopian vision where if you go to the extreme, everything will be fine. That is not the case. Just like to caution that even in the most advanced, most institutionally developed economies, very similar problems arise. The more transparent you are, the more market prices have a role, the more volatile financial markets will be potentially, and the shorter the horizons of the decision makers. So, more transparency, but there is no utopia at the end.

*Chairman:* Now let me turn to Dr. Dongsoo Kang, who has done work on systemic risk, moral hazard, and herd behavior.

*Dr. Dongsoo Kang:* I will try to interpret herd behavior from a systemic risk perspective. Basically, the very nature of systemic risk is all encompassing. For instance, the threats are incredible, and sanctions or penalties are ineffective. Under this huge economic shift or some structural change, no threat can be credible and effective enough. This means that we have to

give a rain check to somebody else. So, some moral hazard is involved in causing systemic risk. The natural example is the deposit insurance system. By introducing the deposit insurance system, the government or the deposit insurer provides assurance with the depositors. They don't have to manage their risks for themselves. Systemic risk nurtures some of the problems of moral hazard committed by not only market participants but also the government. One aspect of moral hazard by market participants is a herd behavior. For instance, if I belong to a big group, I think that I cannot fail because the government or other forces cannot punish me. Thus, this is a kind of insurance. From the government's perspective, they may know that they will be bare-handed if something big happens. So they intentionally try to find out some structural ambiguity. They want to have some room in order to be dynamically inconsistent. They have dual modes, for example. Under normal circumstances the financial supervisory authority, in general, asks financial institutions to manage their own risks. During a crisis, usually the financial authority harmonizes efforts. It's against market discipline, definitely.

So how to divest this unintended result of insurance from each agent is the hard part. As Professor Shin mentioned, I want to interpret the policy suggestion as being a kind of a precommitment approach. You have to commit in advance, ahead of what you should do. You have to be dynamically consistent. No matter what happens, you have to be consistent. Otherwise, there will be a penalty. That is a well-known economic solution out of many others. But it's easier said than done, because the government wants some insurance, and usually market participants will accuse the government of being dynamically inconsistent. You have to be truthful and faithful to some commitments. Usually, the government does not provide a clear code of behavior in advance. Since the market often follows a collective behavior, the government accuses market participants of herd behavior. The question is, "How do you punish market behavior?" because under the given constraints, moral hazard is a "rational" behavior. "Rational" here means that it may be ethically wrong, but it is consistent with human nature. So, this is a never-ending debate, and there is no exact solution.

*Chairman:* Now let's focus our discussion on regulation. During the last couple of days, we have talked about "good or optimal regulation." However, how do you define good or optimal regulation, or what should be considered good regulation and optimal regulation? In addition, some professors argued that independence in regulatory institutions is needed. But I ask, independent of what? Is it independence from the government or political influence, and so on? So, let's try to define what independence means and then define what can be considered good or optimal regulation.

*Prof. Sung-In Jun:* First, I think there can be no institution in a democratic society that can be absolutely independent from any influence in society. By independence of supervisory institution we mean that independence from interest groups, independent from those who are supposed to supervise, independence from those who are supposed to be taken back by the design of that institution. So, it is not possible for any supervisory authority to be independent from the public's voice in general. It should usually be independent from the interest groups. And sometimes, it should be independent to a certain extent from the government, defined in a narrow sense. And sometimes, independence means arms-length relations, so there are many colors or many degrees of being independent. In terms of good regulation, what I learned from the past few years, especially again in the past two days, people can be infinitely rational, of course, given material and communitive constraints. Also, people can be extremely self-motivated, however you define "self." And there is a need for transparency. For example, Professor Shin alluded in his paper that there may be a case where the central bank has to deal with firms in a direct way. Sometimes, the central bank should be allowed to assume risk more directly. In Korea, it didn't happen this way at the central bank, but in the other way. Sometimes it worked well. Sometimes we do see some side effects. For instance, if I have a large amount of assets and also some liabilities, but I just back off from my liabilities; then, if I sell my assets, which are collateralized to an agency at a very low price, I would cause negative effects to the institutions. This allows me to get outside using the backdoor and then recover my assets at a different price. This kind of thing happens. Why? Because, there is a lack of transparency. So I think we are still too far from where we can say that a balance needs to be struck between transparency and other discretion. We are way too far from being transparent. That's why principles matter. That's why precommitment matters. That's why discipline mechanisms matter.

*Prof. Joon-Ho Hahm:* As I agree with Professor Sung-In Jun on the definition of independence, I want to add one more point on this front. The flip side of independence is accountability. We have to make the regulatory body more accountable in terms of their jobs, and to do so, we need to clearly define the duty of regulatory bodies. I think the regulatory body does not need to be one big giant regulator. If regulatory objectives are in conflict with each other, we can separate them and establish independent regulatory bodies, so that each of them can be more accountable for their own jobs. And make those regulatory bodies monitor and balance with each other. As a result of this check and balance among regulatory bodies, I think, we could achieve "optimal regulation," although I am not sure of its definition. Conceptually, if any optimality in regulation exists, we must be able to define an objective function. Then we can maximize this objective function under various constraints to derive optimality. For any regu-

lation, there exist costs and benefits associated with the regulation under consideration. These costs and benefits of regulation can be balanced by designing a regulatory mechanism where multiple regulatory bodies do their best for their own jobs. In this process, each regulator must be independent and clearly be accountable. In that sense, I think—for example, in Korea—in regard to the job of maintaining financial stability and containing systemic risk, the duties and functions of the MOFE, FSC, and the Bank of Korea are not yet clearly defined. As we observed, some serious financial disruptions such as the insolvency of credit card problems could not be appropriately dealt with in the absence of the coordination among these major regulatory bodies. In this regard, in order to achieve optimal regulation I think we have to improve the governance structure of the public regulatory system, making respective regulatory bodies more accountable.

*Prof. Hong-Bum Kim:* I would like to talk more about the issue of independence. I think our supervisory regime is based on the division of labor among the public agencies, including BOK, MOFE, KDIC, FSC, and FSS. When each of these public agencies is to be independent in the real sense of the word, there should be both *functional* cooperation and *horizontal* checks and balances. Public agencies are said to be cooperative, provided they cooperate with each other in terms of their respective functions. Also, institutional checks and balances will work, provided the relationships among those public agencies involved are horizontal. But, in fact, I don't think such functional cooperation and horizontal checks and balances exist, in Korea, between the public agencies.

As for herd behavior, I think that the economic agents involved are all responsible for such behavior. So consumers and firms involved are responsible. Note at the same time that there may be some cases in which the regulators must be held equally or more responsible for it. Let me take credit card companies in Korea as an example. They have recently suffered a fiasco. In early 2001, there were already signs of excessive competition among those credit card companies. Those signs included such practices as indiscriminate issuance of credit cards, aggressive street solicitation, and so on. Suppose that you are the CEO of a credit card company and that you observe many of your competitors are involved in these unhealthy practices. And further suppose that your competitors are doing it without being penalized by the regulator for such practices. Then what will you do? You will be urged to do the same, I would say. This way you will follow suit, contributing to herd behavior. Regulators, in that case, have failed in setting and administering the minimum requirements which all those credit card companies must observe. As this example clearly suggests, the problem may lie significantly with the regulators. Institutional independence, based on functional cooperation and horizontal checks and balances among the public agencies, certainly counts in this matter.

*Prof. Choong-Kee Lee:* First, in terms of optimal regulation, I am not too sure. But I do agree with the other participants' views in terms of independence. One thing I would like to emphasize is cooperation within FSS, among the different divisions, including the securities, banking, and insurance supervisory divisions. Although it is consolidated into one single regulator, I think a "Chinese Wall" exists between them, though it is not imposed. As Mr. Foot noted, the new team at the FSA made their best efforts to create a new culture by cross-cultivating their different ideas. And that is the very example we have to follow and have to learn. That kind of approach or effort is the most important thing we must do.

In terms of conflict of issues, I think the more important thing is cooperation—as I have said, cooperation between different divisions. By and large, if we are going to be successful in consolidating the different divisions in FSS, the next level of cooperation needed is between FSC and FSS. I think the question whether to remove the role of the FSC's restructuring responsibility or FSC as a secretariat is another matter. I think that only if cooperation between FSC and FSS is achieved can they operate very efficiently. And if there is willingness to cooperate between the two, the problems we are talking about may not arise anymore. However, in Korea, the movement of workers between the public and private sector is very limited. Though Dr. Collier said this was valuable, in Korea it is much harder to achieve this. Since positions in the government sector are limited, the scope and room for workers to move around is very limited. I think one way to solve this would be if the government enlarged some posts open to the private sector, as well as allowing public workers to move to the private sector.

*Chairman:* I would like to ask this question of Professor Jackson: What made the U.S. financial system so strong, considering that there is no megaregulator and there is no consolidated financial law?

*Prof. Howell Jackson:* One factor, to which other participants have alluded many times before in our discussion, is the informal mechanisms, such as the market participants, the financial analysts, credit rating agencies, the accounting community, and financial institutions themselves. All of these entities have played important roles in enhancing our regulation. It was the depth of the informal structures and the expertise outside of the regulatory system that propelled our economy, not our choice of regulatory structures.

*Chairman:* Now I would like to give the floor to the fellows from KDI.

*Dr. Inseok Shin:* Let me just make a few comments on optimal regulatory structure. I'll begin first with "independence" and its definition. I think the concept means, first, *objective* independence—meaning regulators shouldn't have conflict in cause. The second, which may be more important, seems to me *procedural transparency*. How can we devise a setup or an institutional arrangement that can create a system with these two charac-

teristics? I think the effectiveness of formal institutional reform in this regard has been oversold in Korea. I don't think these two characteristics can be created or rooted in Korean society or politics merely through enacting a new law or legislation. Indeed it has been attempted, and I think there is not much room left for further improvement. Continuing my theme on the importance of institutions, or in this case informal institutions, I would like to mention the reputation mechanism. One good example is independence of the SEC and the Federal Reserve Board (FRB) in the U.S. Independence of these financial regulators didn't take legal reform. For example, the FRB was known to be under the direction of the Treasury in the 1960s and 1970s. But since the early 1980s under Paul Volcker, the FRB has been known to be independent. It's probably the most independent central bank in the world now. But this was achieved without reform. One reason that explains this transformation is the change in the public's notion regarding the role of the regulators. The question of what changed this informal institution is a really difficult one, though.

Let me just add a quick comment on relationship among regulators. When there are multiple regulators, a natural question that arises is who sits in the driver's seat. For Korea, it tends to be MOFE, while in the UK, it probably would be the FSA, and the FRB in case of the U.S. Which model is right? I do not think there can be a uniform answer to the question. It varies across countries according to surrounding institutions. Included in the institutions are the legal system of a country, the historical reputation of each regulator, and random historic accidents.

*Dr. Chang-Gyun Park:* I think that I can summarize what I've learned in one sentence: It is the people, not the laws or formal institutions that actually make it possible for financial regulators to achieve their true goals or missions. Also, I would like to say, contrary to the opinion that substantial changes in substance are not being suggested in financial regulatory reform, I do think we are suggesting some substantial changes. Let me give you an example. We suggested that the separation existing among the securities industry should be removed. In Korea, if you are involved in underwriting or brokerage, you are not allowed to be involved in the selling or brokering of futures. These two are separated. If you want to be involved in that kind of business, you either need to set up a subsidiary or set up a financial holding company. It's not allowed under one roof. We suggest that this rule of separation should be removed, since it seems to be unnecessary at the moment. That's just one example of many others.

*Dr. Hyeon-Wook Kim:* I would like to make a comment on herd behavior. Simply put, herd behavior is a factor that triggers individual financial institutions to open the doors to the problems that can cause a systemic crisis. I think regulators should keep an eye on systemic risk rather than herd behavior. In other words, rather than looking at herd behavior and providing a safety net, financial supervisors should recognize that this is a

problem that financial institutions expect and represents the implicit guarantees and also herd behavior.

Also, I think the view that the FSS and FSC are controlled by MOFE comes from the FSS itself. When you examine the data in the papers, you can see that Korean financial supervisors are paying too much attention to macroeconomic situations rather than the balance sheets or viability of individual financial institutions. That may be a reason why lots of people believe that the MOFE is controlling the FSS or FSC.

*Dr. Joon-Kyung Kim:* I trust that this conference provided a big momentum for KDI's research project regarding legal regulatory reform commissioned by MOFE in collaboration with the Center for Financial Law at Seoul National University.

I would like to comment on the problems related to time inconsistency in implementing regulatory or financial supervisory policies. We know that regulatory or supervisory policy is supposed to be implemented as a microeconomic policy instrument to resolve market failures, which can be caused by asymmetric information or agency problems inherent in the financial sector. Instead, in Korea you find that these policies at times are used as a macroeconomic policy instrument—for example, to boost the economy. For instance, during the credit card boom, the regulatory and supervisory authority seemed to not have taken timely actions against the overextension of credit to consumers. Also, we find that in the real estate sector, the government often takes a deregulatory approach to help revive the real estate market, and on the other hand, whenever the real estate market was booming, it would take a reregulatory approach. So what we find is that the boom-bust cycle tended to be repeated. In this respect, it is important to ensure that a regulatory or financial policy is not used as a microeconomic policy in order to maintain credibility of policy or time consistency.

*Chairman:* Before I bring this roundtable discussion to a close, I would like to take this time to thank all the conference participants for their hard work and knowledgeable insights. I am sure that the papers and discussions will prove to be very valuable not only to researchers but also to policy makers. Lastly, let me express my appreciation to the organizers of this conference. The conference was made to be a success by the leadership of Dr. Lee-Jay Cho, the dedication of Professor Y. H. Kim, and the hard work of Dr. Joon-Kyung Kim. Now, I would like to turn the floor over to Dr. Lee-Jay Cho.

*Dr. Lee-Jay Cho:* Well, we have finally come to the end of the two-day conference. I think we can say the conference was almost a success in terms of the quality of the papers presented, discussions, and interactions that took place. And we have learned from the wisdom of people with great experience in this area as well as we have a bright set of people doing research in this area, and I just want to change the color of the con-



ference, ending the conference by quoting a line from a another very highly popular, respected Chinese Tang Dynasty professor. He has written a long poem. The line I am going to quote comes after he has beautifully described the music playing as long, sweet, sad, fast, quick, joyful, and pleasant—exhausting all the sounds that make it so beautiful. Then he says, “No sound is far better than sound.” Similarly, I think we have heard beautiful interactions and sounds that are related to regulatory financial reform, like having heard a great piece of music by an orchestra. Conferences like this can start with a great dragon’s head but end with a skinny snake’s tail. But I think this conference began with a dragon’s head and ended all the way with a dragon’s tail. So on this occasion, I want to extend sincere appreciation to Dr. Choongsoo Kim, president of KDI, who has provided tremendous leadership in leading, I would call it, high-quality staffs he has demonstrated with his views and ideas and wisdom in the course of this conference. And we appreciate all the friendship we have developed over many years. And we are evolving into greater cooperation in the years to come. I want to extend our sincere appreciation to people who have traveled a long distance: London, Boston, California, Australia, and Japan. With that, I want to say thank you.