CREDIT RISK MANAGEMENT OF THAI COMMERCIAL BANKS

AFTER THE FINANCIAL CRISIS IN 1997

By

Nipha Preedanond

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

2006

CREDIT RISK MANAGEMENT OF THAI COMMERCIAL BANKS

AFTER THE FINANCIAL CRISIS IN 1997

By

Nipha Preedanond

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

2006

Professor David Behling

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

CREDIT RISK MANAGEMENT OF THAI COMMERCIAL BANKS AFTER THE FINANCIAL CRISIS

By
Nipha Preedanond

Thai banks suffered a great loss after the financial crisis in 1997. Poor credit risk management was one of the reasons for the failure. After the financial crisis, however, the Thai authorities and Thai banks have proved to learn their lessons. Thai authorities restructured the Thai financial infrastructure in several areas such as the introduction of the Financial Master Plan, the establishment of deposit insurance and credit bureau, the use of asset management companies, and the adoption of Basel II in 2004. Several regulatory measures are introduced to improve the credit risk management of Thai banks especially in the area of asset classification, collateral assessment, connected lending, loan review, and credit in real estate sector. In the meantime, Thai banks have developed their credit risk management system so as to be in line with that of international best practices and the Bank of Thailand's requirements. The developments include restructuring banks' credit risk management processes, establishing systematic loan grading and standardized internal rating, employing credit portfolio management models, and investing in IT infrastructure. Although Thai banks and Thai authorities have shown a great improvement after the crisis, some challenges still remain for them to work on for the betterment of credit risk management in Thailand.

CHAPTER 1: INTRODUCTION

1.1. STATEMENT OF THE PROBLEMS

One cause of the problems that led to the financial crisis in 1997 was bad credit risk management in the Thai financial system. In the pre-crisis period when the economy was at its peak, Thai banks and their subsidiary finance companies lent aggressively. Poor lending practices were widely practices among the banks' executives, especially the problem of insider lending. The situation was exacerbated by lax supervision and an outdated legal framework.

For the past decades, the Thai banking sector has been the largest financing provider to the economy with its peaks at the end of 1997 at 156% of the country's GDP. Its sheer size implies that banking sector has strong impact to the survival of Thai's economy. Therefore, poor lending practices among Thai banks are problem not only to the banks themselves but also to the Thai economy. After the financial crisis, Thai people had to share a huge burden of public debt arising from the Thai banking sector. The fiasco of Thai banking system in 1997 evidently shows the importance of credit risk management in both the banking business as well as the entire national economy.

Although the current situation of Thai banking sector has emerged from the crisis, lessons and experiences should not be forgotten. Therefore, this study aims to understand the past mistakes in credit risk management of Thai banks, identify the solutions to improve credit risk management in Thailand, and assess the degree to which these solutions have already been implemented.

1.2. OBJECTIVES OF THE STUDY

1. To analyze the past mistakes in credit risk management of Thai banks before the Asian financial crisis.
2. To study the development in credit risk management of Thai banks after the crisis.
3. To identify the solutions to improve credit risk management in Thailand.

1.3. STRUCTURE OF THE THESIS

The paper is organized as follows. Chapter two discusses credit risk definition, recent developments in credit risk measurement, and the loss concept.

Chapter three provides the overview of Thai's financial structure, players, market share, and the financial performance of Thai banks. Then the chapter gives an overview on the credit market size and trends.

Chapter four examines past mistakes in credit risk management of Thai banks before the crisis. The reason for such lending practices are also identified.

Chapter five provides the information on the development in Thai credit risk management after the crisis. The chapter focuses on the infrastructure and regulatory reforms that affects bank's credit risk management.

Chapter six presents comments from banks' top executives regarding current bank's credit risk management of their banks. Also, the chapter provides an analysis on changes in credit risk management process of Thai banks after the crisis.

Chapter seven proposes recommendations for further improving credit risk management in Thailand. Finally, the conclusions are included in this chapter.

CHAPTER 2: CREDIT RISK MANAGEMENT CONCEPTS

2.1. WHAT IS CREDIT RISK?

Credit risk is defined as the potential that a bank borrower or counter party will fail to meet its obligations in accordance with agreed terms. The risk also includes the potential that counterpart is downgraded in its credit standing, with a corresponding increased cost for increasing capital reserves on the degraded loan.

2.2. CREDIT RISK MEASUREMENT

2.2.1. Expert System and subjective analysis

Expert systems and subjective analysis or so-called banker "expert" system can be used to assess the credit risk. In case of personal loans, bankers use information on various borrower characteristics to assess the credit risk of the borrower. These factors are borrower character (reputation), capital (leverage), capacity (cash flow), collateral (security), the so-called 4 "Cs" of credit, to reach a subjective judgement (i.e., that of an expert) as to whether or not to grant credit.

For corporate loans, most banks would generally consider risk factors as follows: a) the company's quality, b) the elements of loan being requested, c) the structure of the loan, and d) bank's objectives.

a) Quality of the company

In assessment of a *company's quality*, banks consider the honesty and integrity of business and its management team, financial condition, size (sales revenue, total assets, or market capital), industry, position within the industry, and the reliability of the borrower's financial statements. Quality of management is a significant factor in credit risk assessment because it largely contributes to the success and financial strength of company. Coyle Brian ((200) stated that the more objective indicators of management's ability could be assessed according to the experience, expertise, and stability of the senior management team[1].

b) Element of Loan Requested

The purpose of a loan, the payments plan, and collateral/guarantee are considered as the elements of loan. The purpose of a loan must be clear and acceptable. For example, loan requested to finance the planned growing business is acceptable while a loan to settle existing debts could indicate a serious liquidity problem.

Payment is being considered through financial statement analysis. Financial statement

[1] Coyle, Brian, Corporate Credit Analysis, Chicago: Glenlake Publishing Co., Ltd., 2000.

analysis focuses on the company's debt service capacity considering its free cash flow, the liquidity of its balance sheet, and the firm's access to sources of finance other than bank loans. Although numerous financial ratios are often used, most of the banks mainly look at historical and projected earnings, operating cash flow, interest coverage, and leverage in their financial ratio analysis.

Lastly, banks find their protections in case the company's default on loan by considering the collateral/guarantee. Banks normally take into accounts types, value, and liquidity of the collateral being offered. A guarantee is applicable, banks would further evaluate the guarantor's financial stability and integrity.

c) Structure of the Loan

The structure of the loan such as type of loan, terms, and covenants must be agreed by banks and the borrowing company. Both parties must establish mutual understanding and agreement on payment period, fee, interest rate charged, and actions required if covenant(s) are not met.

d) Bank's objectives and target markets

In order to maintaining banks' portfolio objective, banks further consider if the loan meets its target market. The other question is whether the risk and reward from the transaction satisfy the bank's profitability objective.

2.2.2. Quantitative models of credit risk measurements

Altman and Saunders (1997) state that the credit risk measure of individual loan can be measured based on expert systems and subjective analysis and on more objective analysis using models of credit risk measurements[2]. The recent trends over the past 20 years have increasingly moved towards more objectively based systems. These systems include account-based credit-scoring systems and other newer models of credit risk measurement.

a) Account-based credit-scoring systems

The financial accounting-based credit-scoring models are univariate accounting based credit-scoring systems, where the FI decision-maker compares various key accounting ratios of potential borrowers with industry or group norms. The others are multivariate models where the key accounting variables are combined and weighted to produce either a credit risk score or a probability of default measure. There are at least four methodological approaches to developing multivariate credit-scoring systems: the linear probabilty model, the logit model, the probit model, and the discriminant analysis model.

---

[2] Altman, E. I., Saunders, A., "Credit Risk Management: Developments Over the Last 20 Years", Journal of Banking and Finance 21 (1996): 1721-1742.

The best of example of multivariate models is Zeta model developed by E.I. Altman[3].

b) Other (newer) models of credit risk measurement

The other newer group of credit risk models uses financial theory and more widely available financial equity market data to make inferences about default probabilities on debt and loan instruments. Consequently, these models are most relevant in evaluating loans to larger borrowers in the corporate sector. These models include the term structure of credit risk approach, mortality rate approach, RAROC models, Option models (including KMV credit monitor model), CreditMetrics, and Credit Risk+.

2.2.3. Loan portfolio management and Concentration Risk

Traditional credit analysis has focused on individual credits rather than on how they relate to a portfolio as a whole. However, many recent credit losses suffered by banks, have resulted from excessive portfolio concentration in particular sectors. Therefore, increasingly FIs have recognized their loans as constituting a portfolio and learn to measure credit concentration risk as well as the credit risk on individual loans. Altman

[3] Altman, E.I., 1968. Financial Ratios Discriminant Analysis and the Prediction of Corporate Bankruptcy, Journal of Finance, 589-609.

and Saunders, 1998 state that the early approach includes (1) subjective analysis. The expert's feel as to a maximum percent of loans to allocate to an economic sector or geographic location. (2) on limiting exposure in an area to a certain percent of capital (e.g. 10%) or (3) on migration analysis measures the transition probabilities of relatively homogenous loans, in a given pool, moving from current to any number of possible default states, varying from 30 days overdue to charge-off[4]. Migration analysis plays a critical role in the recent Credit Metrics (1997) approach[5]. More recently, the potential for applying modern portfolio theory (MPT) to loans and other fixed income instruments has been recognized.

2.3. Loss Concepts

The credit risk of a loan involves the probability of default (PD) and the fraction of the loan's value that is likely to be lost in the event of default (LIED). LIED is always specific to a given loan structure while PD is generally associated with the borrower. The product of PD and LIED is the expected loss (EL) on the exposure in a statistical

---

[4] Altman, E.I., Saunders, A., " Credit Risk Measurement: Developments Over the Last 20 Years", Journal of Banking and Finance 21 (1998): 1721-1742.

[5] ibid

sense. It represents an estimate of the average percentage loss rate over time on a group of loans all having the given expected loss.

Expected Amount of Loan Loss (EL) = Probability of default (PD) X Loss rate in default (LD)

CHAPTER 3: UNDERSTANDING THAI FINANCIAL SYSTEM AND BANKING INDUSTRY

3.1. THE THAI FINANCIAL STRUCTURE

3.1.1. The Players

The Thai financial system consists of many different types of financial institutions supervised by different regulatory authorities based on their business activities. Commercial banks, international banking facilities (IBFs), specialized financial institutions, finance companies, credit foncier companies, and asset management companies are all under supervision of the Bank of Thailand (BoT). The remaining financial institutions, i.e. securities companies, mutual fund companies and provident funds, are supervised by the Securities and Exchange Commission of Thailand (SEC). In turn, Ministry of Finance regulates both the BoT and the SEC.

3.1.2. Characteristics of Thai Financial Industry

The importance of each financial player to the Thai financial system and economy can be demonstrated by their financing percentage relative to GDP as shown in the figure below. Over the past decades, Thai banks' assets have been the largest financing to the Thai economy with its peak at the end of 1997 at 156 percent of GDP. Although the ratio has been dropped after the crisis, banks still account for about a half of Thai financial markets. Its sheer size implies that banking sector has a strong impact on the survival of Thai economy. Moreover, the figure shows that the Thai financial system is unbalanced with its bank credit-based financing which leads to high volatility of country's economy[6].

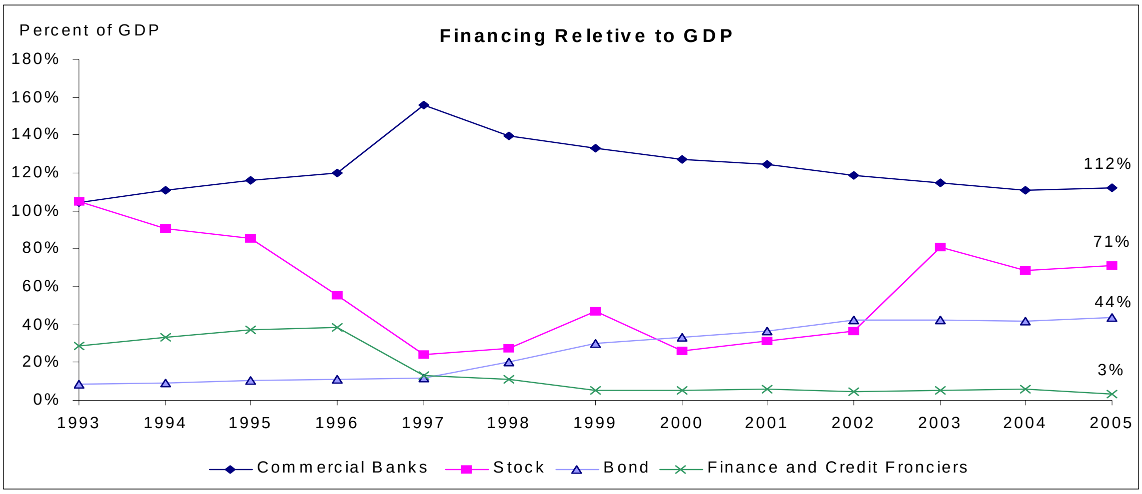


Figure 1: Financing Relative to GDP in Thai Economy

Remarks:

1. Commercial Banks (includes SFIs), finance companies, credit foncier companies (total assets)
2. Stocks (SET market capitalization at market value)
3. Bonds (outstanding values of public and corporate bonds at par value)
4. GDP (at current market price)

Sources: Bank of Thailand, Stock Exchange of Thailand, Thai Bond Dealing Centre, NESD

Lastly, the figure illustrates that bond market is increasing its role since 1998 while the

[6]. Vichyanond Pakorn (1999) comments that before the 1997, about 70-80 percent of all financial intermediation in Asia was bank credit-based. The bulk of the US$125 billion of funds withdrawn from Asia during the region's crisis comprised banking lending particularly the short term.

stock market is gradually coming back as the economy is on its road to recovery. The reasons for increasing financing through capital market are economic recovery and *disintermediation trends* following the 1997-1998 financial crisis. After the crisis, banks have generally overhauled their lending systems and taken a more conservative approach. Facing such limitations, companies turn to more attractive financing sources i.e. equity and bonds.

3.2. CREDIT MARKET IN THAILAND

Banks largely dominates the credit market in Thailand. Bank's loans on average account more than 90 percent of total loans. The proportion of loans to economic growth (loans/GDP) has declined since the crisis, suggesting that a number of corporates have

Table 1: Loans Provided by Banks to Thai Economy

(in Million Baht)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Financial	5,204	6,020	6,485.	5,771	5,135.5	4,251	4,064.6	4,757	4,970	5,386
Banks	3,967	4,598	5,967	5,318	4,952	4,114	3,899	4,583	4,749	5,105
CB'sLoan/Tot	76%	76%	92%	92%	96%	97%	96%	96%	96%	95%
CB's	95%	100%	126%	115%	107%	84%	76%	84%	80%	78%

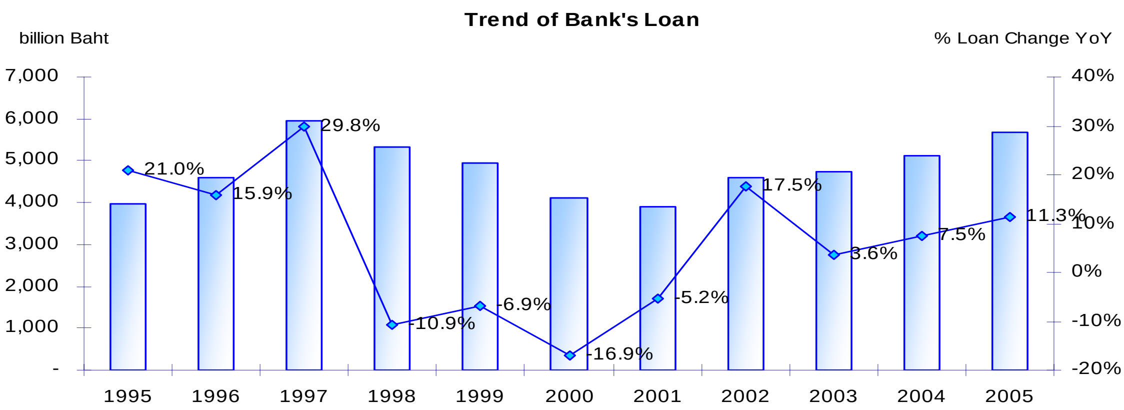
Source: Loan figures from Supervision Report 2004, Bank of Thailand

Remark: GDP at current price from NESDB

sought other cheaper sources of fund through stock and bond markets, retained earning, or other alternatives. Nevertheless, business and consumer sector still relied on loans from financial institutions as the major source of fund.

According to the below Figure 2, the trend of bank loan was sharply decreased right of the year of crisis 1997. This declining bank lending growth can be attributed to the cyclical factors such as the Asian crisis and the economic downturn that reduced corporate loan demand. The fallout from the 1997 crisis (and more recent downturns) in the form of non-performing loans (NPLs) and foreclosed properties have made banks more cautious in their lending decisions. These factors along with other factors such as increasing competition capital markets have put pressure on bank profits.

Figure 2: Trends of Bank's Loan



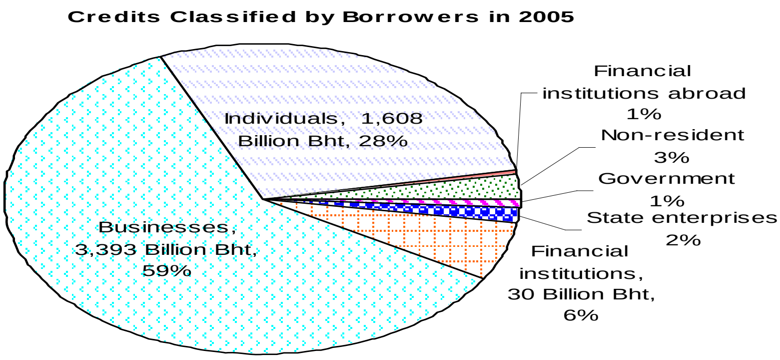
Source: figures from Bank of Thailand's database

However, the loan growth was again picking up in 2002 when the economy gradually recovered from the crisis. Loan outstanding rose to 5.6 trillion baht in 2005, representing a year-on-year increase of 11.3 percent, up from 3.8 percent in 2004.

3.3. LOANS CONCENTRATIONS OF THAI BANKS

For the past decade, banks have granted more than half of their credits to business sector. In 2005, business sector borrows about 59 percent of loan while the individual

Figure 3: Credits Classified by Borrowers in 2005



Source: Bank of Thailand's database

sector has 28 percent of credits granted. The remaining portions of loan are granted to domestic financial institutions (6%), non-resident (3%), state enterprises (2%), government (1%), and financial institutions abroad (1%) accordingly.

3.3.1. Loan Concentration in each Business Sector

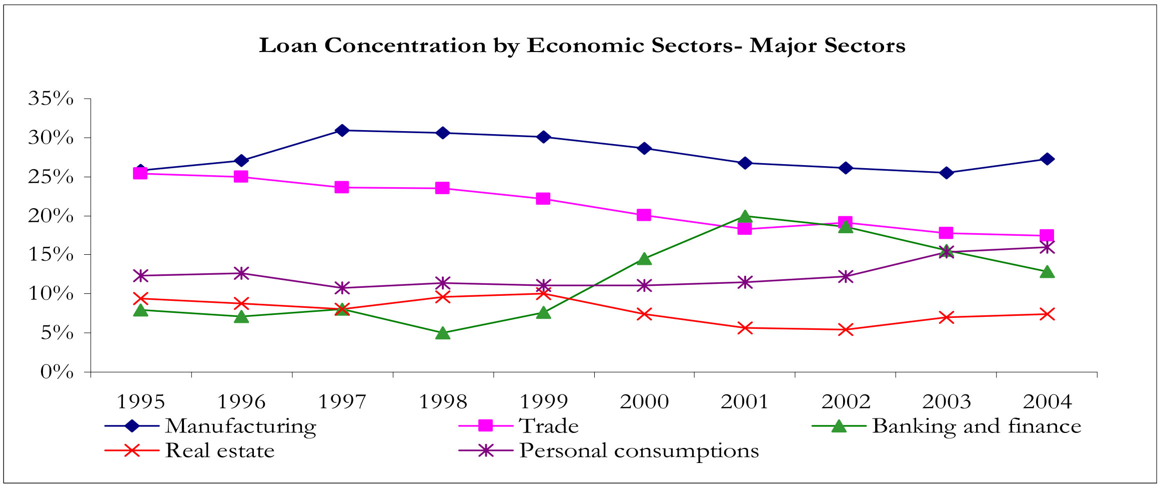
According to Bank of Thailand data, all loan of commercial bank categorized into 10 main business sectors[7]. As shown in the figure 4, loans of commercial banks in Thailand are mainly concentrated in manufacturing, trading, personal consumption, banking and finance, and real estate. In year 2004, percentage of loan concentrations are 27.3% in manufacturing, 17.4% in trading, 16% in personal consumption, 12.9% in banking and finance, and 7.4% in real estate. The concentration of these loans in the mentioned business sectors are the result of economic structure in Thailand, in which for a decade almost 50% of country‘s GDP comes from manufacturing and trading sector.

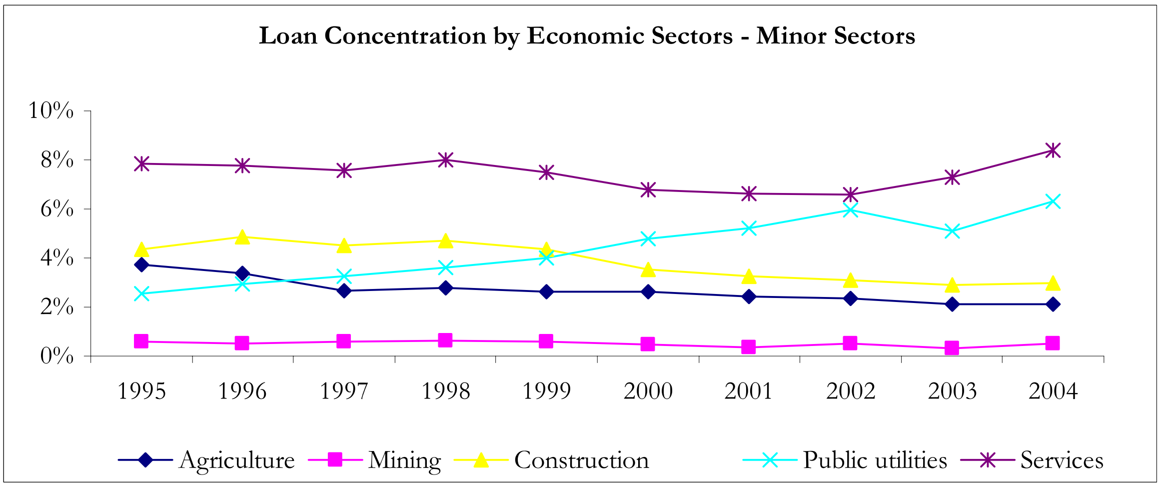
After the crisis in 1997, the trends of loan concentration have been changed with the increase in loans to banking and finance, public utilities, and personal consumption that are mostly composed of housing loans. The ratios are from 8% to 12.9%, 2.5% to 6.3%, and 12.3% to 16% respectively. The shift of loan concentration to these business sectors after the crisis is because these business sectors are low risk-weighted loans according to Bank of Thailand’s capital requirement. Most of loans extended to all these three categories have a concessional risk weight of 0-0.5.

---

[7]. From December 2003, loan of Thai banking system has been classified into 13-business sector in accordance with the International Standard Industrial Classification of All Economic Activities (ISIC). However, the writer complied loan data in 2003 and 2004 in accordance to old classification system.

Figure 4: Loan Concentration by Economic Sectors





Source: Bank of Thailand's database

3.4. COMMERCIAL BANKS IN THAILAND

As of December 2005, there are a total of 34 banks operating in Thailand, of which 13 are commercial banks registered in Thailand, 18 are branches of foreign banks, and 3 state-owned banks. Based on the ownership structure banks in Thailand, banks can be divided into four groups: 1) private Thai banks, majority owned by Thai; 2) hybrid banks, majority owned by foreigners; 3) state-owned banks, majority owned by government, and 4) branch of foreign banks and their subsidiaries, owned by foreign banks overseas.

Table 2: Market Share of Banks in Thailand

Thai Commercial Banks Market Share as of 31 December 2005

Unit: Million Baht

Banks	Assets	Percent of Total	Deposits	Percent of Total	Loan Net*	Percent of Total Loan	No. of Branches
Thai Private-Owned							
Bangkok Bank	1,393,021	17.4%	1,156,530	18.9%	832,420	16.2%	685
Kasikorn Bank	837,699	10.5%	689,652	11.3%	592,013	11.5%	499
Siam Commercial Bank	807,773	10.1%	622,431	10.2%	554,289	10.8%	692
The Thai Military Bank	716,295	9.0%	517,214	8.5%	521,118	10.1%	426
Bank of Ayudhya	636,466	8.0%	553,532	9.1%	423,862	8.2%	490
Thanachart	195,478	2.4%	149,014	2.4%	82,043	1.6%	67
Tisco Bank	70,222	0.9%	34,611	0.6%	54,630	1.1%	15
Kiatnakin Bank	68,658	0.9%	41,580	0.7%	41,704	0.8%	17
ACL Bank Plc.	34,910	0.4%	21,513	0.4%	18,987	0.4%	1
Land and House Retail Bank Plc	9,315	0.1%	6,322	0.1%	6,211	0.1%	1
Hybrid Bank							
United Overseas Bank	203,931	2.6%	152,602	2.5%	148,129	2.9%	154
Standard Chartered Nakornthon	139,687	1.7%	87,700	1.4%	84,472	1.6%	41
Sub-total	5,113,455	64%	4,032,701	66%	3,359,878	65%	3,088
State-owned Banks							
Krungthai Bank	1,160,079	14.5%	983,212	16.1%	853,605	16.6%	643
Siam City Bank	451,826	5.7%	382,164	6.3%	289,451	5.6%	386
Bank Thai	269,119	3.4%	194,573	3.2%	114,842	2.2%	112
Sub-total	1,881,024	23.6%	1,559,949	0.26	1,257,898	24%	1,141
Total Banks Registered in Thailand	6,994,479	88%	5,592,650	1	4,617,776	90%	4,229
Intl Commercial Bank of China (subsidiaries)	10,783	0.1%	4,874	0.1%	7,618	0.1%	2
Foreign Banks (18 Full Branch)	981,254	12.3%	516,583	8.4%	517,640	10.1%	18
Total Foreign Banks	992,037	12.4%	521,457	8.5%	525,258	10.2%	20
Total Commercial Banks	7,986,516	100%	6,114,107	100%	5,143,034	100%	4,249

Source : Bank of Thailand and Banks' Balance Sheets
Remark : Loan is net of allowance for doubtful account

From table 2, it is shows that Thai banking industry is concentrated with the five largest banks i.e. Bangkok Bank, Krung Thai Bank, Thai Farmer Bank, Siam Commercial Bank, and Thai Military Bank. As of December 2005, the total assets of top-five bank accounts for 62% of the total bank assets, 65% of total bank deposits and 65.2% of total bank loan.

With no restriction on branch limit, locally owned banks have extensive branches throughout the country. As of December 2005, there are 4,231 branches of Thai bank and hybrid banks countrywide. Having such competitive advantage, locally owned banks capture both retail and corporate customers better than foreign banks. Domestic banks are by far more important than foreign banks.

Foreign bank branches incorporated in Thailand are restricted by branch limitation regulations so all of them are located in Bangkok. At the end of 2005, foreign banks have 12.3 percent of total bank assets, 8.4% of total bank deposits, and 10.1% of total bank loans.

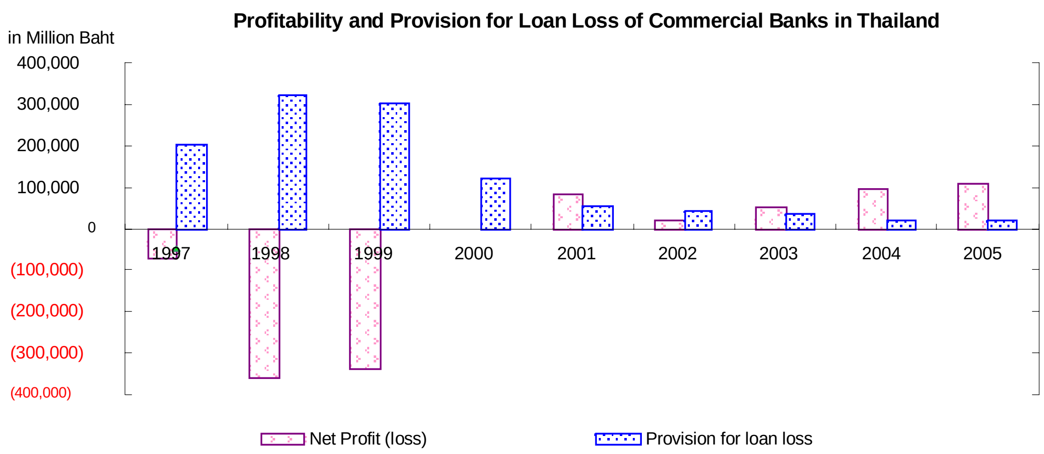
With the introduction of the Financial Master Plan in 2003, the Thai banking industry has transformed into a new era. The plan enforced financial institutions to reduce from commercial banks, finance companies, and credit fonciers to only two types of deposit-taking institutions i.e. commercial bank and retail bank. As a result of the policy enforcement, the Thai financial industry is undergoing an explosion of mergers, reorganization, re-licensing, and acquisitions. (See more details about the Financial Master Plan and its impact to Thai financial industry in Chapter 5).

3.5. FINANCIAL PERFORMANCE OF COMMERCIAL BANKS

3.5.1. Profitability

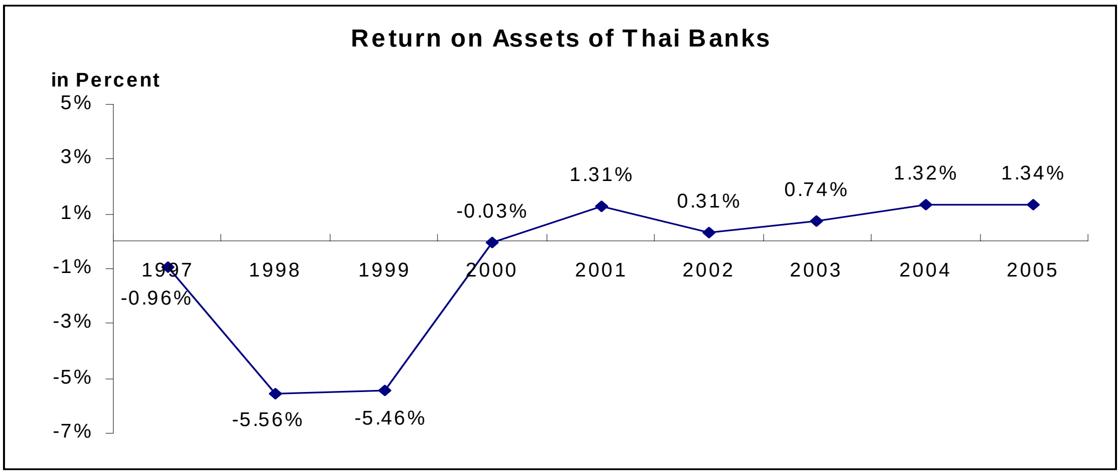
The profitability of Thai commercial banks has continued to improve and their balance sheets have gradually strengthened. At the end of 2004, the banks earned net profit (before extraordinary items) with the total net profit of 100 billion baht, almost twice that of previous year. Likewise, interest rate spread, net interest margin, and the overall operating efficiency continued to improve. Major factors contributing to improved profitability were substantial increase in fee-based income, decrease in interest expense, progress in debt restructuring, and strategic adjustment towards expansion of high-margin consumer loans. Improved profits enabled Thai banks to accumulate their capital base and increase their ability to absorb risk.

Figure 5: Profitability, Provision for Loss of Banks in Thailand



Source: Bank of Thailand's database

Figure 6: Return on Assets of Banks in Thailand



Source: Author's calculation based on database of Bank of Thailand

All commercial banks in Thailand are able to set aside provision at a level higher than regulatory requirement. The actual to required provisioning ratio of Thai banks increased slightly from 137.3 percent in 2004 to 143 percent in 2005.

3.5.2. Capital Funds

Banks in Thailand have been able to keep their capital funds above the regulatory requirements[8] after the financial crisis. As December 2005, Thai banks's tier 1 captial stood at 10.2 percent of risk assets while total capital funds reached 13.28 percent of risk assets. Foreign banks also perform well and are able to maintain their capital funds at 21.69 percent of risk assets. For the whole banking sector, the capital adequacy ratio increases from 13.05 percent in 2004 to 14.19 percent in 2005. This figure means that the quality of capital for the Thai banking sector remain strong.

Table 3: Capital Funds of Banks in Thailand

Capital Funds

Unit : In Million baht

Year	Thai Banks				Foreign Banks		Total Banks	
	Capital Funds		% of risk assets		Capital Funds	% of risk assets		
	Tier 1	Total	Tier 1	Total			Total	Total
2001	293,098	436,740	8.91	13.28	73,749	19.52	510,489	13.92
2002	308,724	448,085	8.93	12.96	74,406	20.37	522,491	13.67
2003	377,508	529,953	9.57	13.43	74,144	20.45	604,097	14.02
2004	397,163	544,568	9.01	12.36	91,073	19.63	635,641	13.05
2005	502,645	666,388	10.02	13.28	131,060	21.69	797,448	14.19

Source: Bank of Thailand

[8] As of August 14, 1998, the minimum requirements of capital adequacy ratios are 4.25% (tier 1) and 18.5% of risk assets for Thai banks, and 7.5% of risk assets for foreign banks.

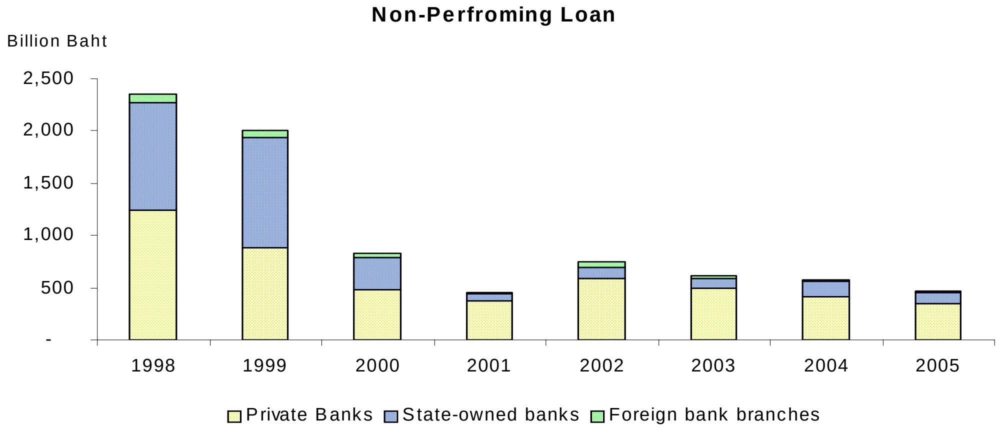
3.5.3. Non-Performing Loans (NPLs)

As previously mentioned in the credit market section, Thai private banks have always been the largest credit providers in the Thai credit market. In 2005, private banks commanded the largest share of 65% in the credit market, while state-owned banks occupied only 24%. The foreign banks, on the other hand, occupied the smallest share of 10.2% in 2005.

However, with regard to asset quality, the private banks' NPLs have also been the largest. As shown in figure 6 below, the portion of NPL of Thai private banks's NPL was the highest except during year 1998 and 1999 when the NPL of state-owned banks were higher. The primary reason for this is that the government took over six ailing private commercial banks after the crisis in 1997, so their NPL raised the average of state-owned banks. By end-December 2000, the NPLs' figure improved significantly, with NPLs declining to 822 billion Baht, or 17.7% of total credit outstanding. The substantially decrease in NPL was due to the fact that part of NPL was transferred to asset management companies. Moreover, a large amount of debt was restructured and written off at the end of the year.

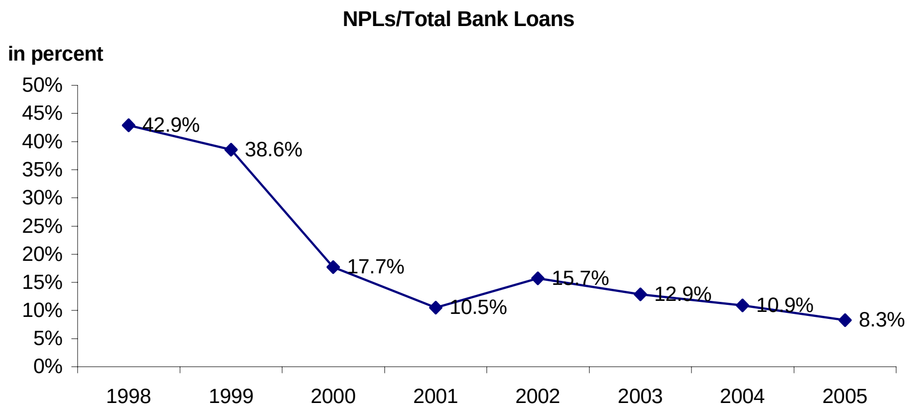
Thereafter, the decline of NPLs, however, has been steady. As of end-December 2005, aggregate NPL of commercial banks declined further to 470 billion baht (8.3% of total loans) compared to 570 billion baht (10.9% of total loans) in 2004. The reduction in NPL resulted largely from the speeding up of debt restructuring, legal execution process, and debt write-offs.

Figure 7: Non-Performing Loans



Source: Bank of Thailand's database

Figure 8: NPL/Total Bank Loans in percentage



Source: Bank of Thailand's database and commercial bank's balance sheets

In summary, after the crisis, the financial performance of Thai banking sector is much healthier with improvement in profitability, stronger balance sheets, and declining figures of NPLs.

CHAPTER 4: CREDIT RISK ANALYSIS OF THAI BANKS BEFORE THE FINANCIAL CRISIS YEAR 1997

4.1. CONNECTED LENDING

Before the financial crisis, connected lending to relatives, friends, and political ties was one of the most notorious malpractices among Thai banks. According to Charumilind, Kali, and Wiwattanakantang (1998), firms with connections to banks and politicians had greater access to long-term debt than firms without such ties[9]. Connected firms needed much less collateral to obtain long term loans than those without connections. They also do not find support for the existence of connections between banks and firms serving to reduce asymmetric information problems[10.]

---

[9] Charumilind, Chutatong., Kali Raja., and Wiwattanakantang Yupana, "Connected Lending: Thailand before the Financial Crisis", Journal of Business, forth coming, (SSRR online database).

[10] The information view argues that connection between banks and borrowers would help reduce information asymmetry and moral hazard problems. Connected lending should therefore be valuable both to the banks and firms. However, La Porta et al. (2003) noted, if connected lending improves information flows, then banks should be able to reduce its default rates, or at least have high recovery rates. In the case of Thailand, high non-performing loans during and before the crisis is inconsistent with the information view and thus supports the connected lending view.

4.2. COLLATERAL-BASED LENDING

Thai banks' lending practices were largely collateral-based. Less attention was paid to cash flows or analyzes of project feasibility. Menkhoff/Neuberger/Suwanaporn 2003 noted that Thai banks demand collateral more often and to a higher degree than banks in developed markets[11]. They use collateral primarily to reduce the perceived credit risk of smaller and younger firms and to provide house bank services to these firms. Collateral-base lending behavior of Thai banks caused them to be vulnerable to real estate market. The explanations for heavy reliance on use of collateral in Thai banks can be contributed to the followings:

Limited types of security allowed

Many legal experts have commented on the deficiency of Thai law regarding the security interests permitted under Thai law. As Sathitsuksomboon and Rattanopas (2002) commented, security interests over assets are rather limited in Thailand. The forms of security available under the Thai Civil and Commercial Code are primarily: (1) mortgage,

---

[11] Menkhoff Lukas., Neuberger Doris., and Suwanaporn Chodechai, "Collateral-based Lending in Emerging Markets: Evidence from Thailand", Journal of Banking and Finance, Elsevier, vol. 30(1) (2006):1-21.

(2) pledge, and (3) corporate or personal guarantee (surety). Thailand does not recognize a variety of security interests including liens, encumbrances, and charges commonly found in common law countries[12]. Furthermore, only certain types of property specified under the law can be mortgaged, i.e. immovable property and certain types of registered movable property. After the 1997 economic crisis, the need for Thai law to recognize other forms of security for mortgage has become more urgent.

b) Bank of Thailand's regulations

According to Bank of Thailand's regulation before 1995, commercial banks are allowed to add accrued interest back as principal if the total amount less than the value of collateral. This regulation actually below international practices in which pending interest payment should be classified as non-performing loan, thus commercial banks require setting aside more provision immediately. The regulation encouraged banks to overstate the appraised value of collateral.

The regulation also allows banks to deduct the value of collateral prior to required provision calculation. Although the Bank of Thailand requires banks to take a 10

[12] Sathitsuksomboon, Charunun, and Rattanopas Dussadee., The Need for Secured Transactions Law, Tilleke & Gibbins International Ltd., September 2002.

percent haircut off the appraised value, it is unlikely that the amount would equal to potential loss, especially when most collateral are likely to be significantly overvalued.

c) Real Estate Boom

From 1957 to 1997, the Thai economy experienced high growth while the real estate price increased continuously. Unfortunately, this real estate boom overshadowed the growing default risks inherent in the borrower since the banks believed the growing price of collaterized property would always be enough to compensate the loss given default. By over-reliance on collaterized properties, Thai banks had less incentive to assess the risk of the borrowers as well as monitoring them.

4.3. POOR PORTFOLIO MANAGEMENT

Because Thai banks carried excessive exposure to the real estate sector, non-performing of the whole banking industry was at peak of 46 percent at the end of 1998. The concept of portfolio management was not given much attention during the pre-crisis period. There was little understanding of the benefits of portfolio diversification[13],

[13] The comment cited in the presentation of one senior executives of a Thai bank at Risk Symphosium, Bank of Thailand, 2003

instead the focus was on individual loan basis. Bank's loan policy did not state objectively the direction and limit for loan to a particular industry and a single borrower. Many Thai banks did not have in place a good monitoring system to measure the excessive risk taking in the portfolio of their lending. In addition, the regulations were inadequately encouraged bank to emphasize on loan concentration in a single sector or a borrower.

4.4. COMPROMISE OF CREDIT PRINCIPLES UNDER COMPETITION

Thai banks in many cases granted loans carrying undue risks or unsatisfactory terms, with full knowledge of violating of sound credit principles. With the property and stock price boom during 1992 to 1995, Thai economy experienced high growth and received large and deceptively cheap capital inflows. Business expanded investment rapidly. The borrowers at that time had more bargaining power and could easily access loan from any banks. Having surplus funds, Thai banks were under competitive pressure to considered quantity more than quality of the loan portfolio. They did not expend resources on assess the underlying risks of neither borrowers nor collateral. Loan pricing did not appropriately reflect borrower's credit risk. The situation worsen when Thai banks became less vigilant in screening borrowers and taking appropriate actions against borrowers once they showed signs of financial deterioration. This is because banks were afraid to lose customers if they demanded a lot from them.

4.5. BAD CREDIT CULTURE

Treacy and Carey (1999) state that credit culture refers to an implicit understanding among bank personnel that certain standards of underwriting and loan management must be maintained[14]. Caouette, Altman, Narayanan (1998) also mention that credit culture is the collection of principles, actions, deterrents, and rewards that exist within a lending organization[15]. As mentioned earlier on connected lending, Thai banks were largely family-owned and managed by the family members who maintained power in the credit decision committee. These people influenced credit decisions that were based on personal relationships. The credit culture in many banks was deteriorating because preferential treatment to borrowers referred by the bank's owners or intervention by government authorities. This cultivated lending practice for credit officer to pay less attention to borrower's credit risk than to relationships.

---

[14] Treacy William F., and Carey, Mark S., " Credit Risk Rating at Large U.S. Bank's", Federal Reserve Bulletin 84-11 (1998):897-921.

[15] Caouette, John B., Altman, Edward I, and Narayanan, Paul., Managing Credit Risk: The Next Great Financial Challenge, New York: John Wiley & Sons, Inc. 1998., page 31.

The internal rating system is one of a tool that can help promote and maintain a good credit culture within a bank. Unfortunately, the internal rating system was not clearly stated and fully understood by credit staff.

The credit analysis and approval process was not fostering sound credit principles. Credit officers had dual role of loan marketing and credit rating while their performance was base partly on the portfolio growth. Such dual roles of credit officers often promote a conflict of interest.

Moreover, the lack of independent credit audit worsens credit culture in the banks. The audit department was not given enough power and independence from business unit. It often lacked support form the management and failed to receive full cooperation from the credit department. Because of this lack of power, the audit department tended to compromise with the credit department and did not seriously attempt to find weaknesses or misconduct in its credit audit.

4.6. Lax Supervision

Prudential regulations, especially in the area of asset classification, asset valuation, loan review, corporate governance, and risk management were inadequate. Bank of Thailand emphasized its supervision on transaction verification rather than risk-based supervision.

Bank examiners did not emphasize on strategic risks, operational risks, management's ability to control risks, and corporate governance.

As a result, the supervision and examination was focused on the assessment of bank's present financial condition rather than bank's present and future financial condition as well as risk management systems.

4.7. OUTDATED LEGAL FRAMEWORK

a) Non-consolidated supervision

In 1999 the World Bank conducted an assessment of Thailand's banking supervisory in compliance with the Bank for International Settlements (BIS) 25 Core Principles of Effective Banking Supervision and concluded that Thailand did not comply with the core principle concerning consolidated supervision. The underlying reason behind the non-compliance is due to the fact that the current laws governing financial institutions under the supervision of the Bank of Thailand do not grant power to the Bank of Thailand to supervise financial institutions on a consolidated basis.

In Thailand, commercial banks are under the Commercial Banking Act and directly supervised by Bank of Thailand. On the other hand, finance companies and finance and securities companies are under the Act on the Undertaking of Finance Business, Securities Business and Credit Foncier Business and are share-supervised by Bank of Thailand and Ministry of Finance. Under Commercial Banking Act, banks are not allowed to form financial conglomerates, thus banks set up separately financial/securities companies to operate non- permitted businesses under the Commercial Banking Act. As a result, Bank of Thailand was not able to oversee bank's total risk position, which is covered in its financial/securities subsidiary companies.

b) Bankruptcy law and foreclosure procedures

Before the crisis, the foreclosure law in Thailand involved lengthy procedure and did not allow banks to sell, foreclose or dispose of bad debts to stop losses. Bankruptcy law was also outdated hindering the closure of bankrupt company/person. According to PICS [16] report (2005), Thailand lags behind its neighboring countries in contract enforcement and closing of a business. Thailand needs 390 days for contract enforcement compares to 75 days for Korea, 241 days for China, and 300 days for

[16] The Thailand Productivity and Investment Climate Study (PICS), Albert Zeufack (2005), is the collaborative study of the Foundation of the Thailand Productivity Institute (FTPI), National Economics and Social Developoment Board (NESDB), and World Bank. The study is based on a survey of 1,500 firms across Thailand. It reflects the key constraints to doing business in Thailand and benchmarks Thailand's investment climate with other countries in the region.

Malaysia. The report also states that firms usually take on average 420 days to the maximum of 1,680 days to resolve disputes over the payments in the court. To close a business in Thailand, it takes up to 3 years on average and costs 36 percent of the total estate value. This is far greater than in Malaysia (2 years and 15 percent) or in China (2 years and 22 percent).

CHAPTER 5: ROLES OF THE BANK OF THAILAND AFTER THE CRISIS

Since the financial crisis, Thailand has undergone progressive financial reforms in several areas. The Bank of Thailand has changed its supervisory approach to be tougher, and more engaged. Enforcement of the rules is much uncompromising. It has been moving away from transaction-based supervision and towards more risk-based and consolidated supervision. In addition, the Bank of Thailand has issued several regulatory measures in an attempt to strengthen and improve Thai financial sector. However, the most significant infrastructure and regulatory reforms that entirely change the landscape of Thai financial sector at present and in the coming years are the followings:

5.1. INFRASTRUCTURE REFORM

5.1.1. Restructuring of the Thai Financial System

In the pre-crisis period, the Bank of Thailand was not able to oversee Thai banks on consolidated basis[17]. The problem led to the introduction of one presence policy under the Financial Master Plan. According to the new policy, all types of the Thai financial

[17] Please refer to chapter 4 regarding the problem of non-consolidated supervision for detail explanation.

institutions, which were once distinguished between commercial banks, finance companies, and credit fronciers, are required to merge or to apply to become either commercial banks or retail banks. The policy, thus, allowed the Bank of Thailand to oversee total risk position of the bank's which once was hidden in their financial/securities subsidiary companies.

According to the policy, commercial banks are qualified and well-capitalized financial institutions requiring a minimum of Bt5 billion of tier-1 capital. These banks may provide most financial services to all groups of customers, but are not permitted to engage in trading, insurance underwriting and brokering, or underwriting equity securities.

On the other hand, the retail banks in the definition differ from commercial banks with smaller capital requirement (Bt250 million of tier-1 capital) and a different range of services. Retail banks may offer financial services to retail customers and SMEs within the same limitations as commercial banks, but they cannot conduct business related to foreign exchange and derivatives products.

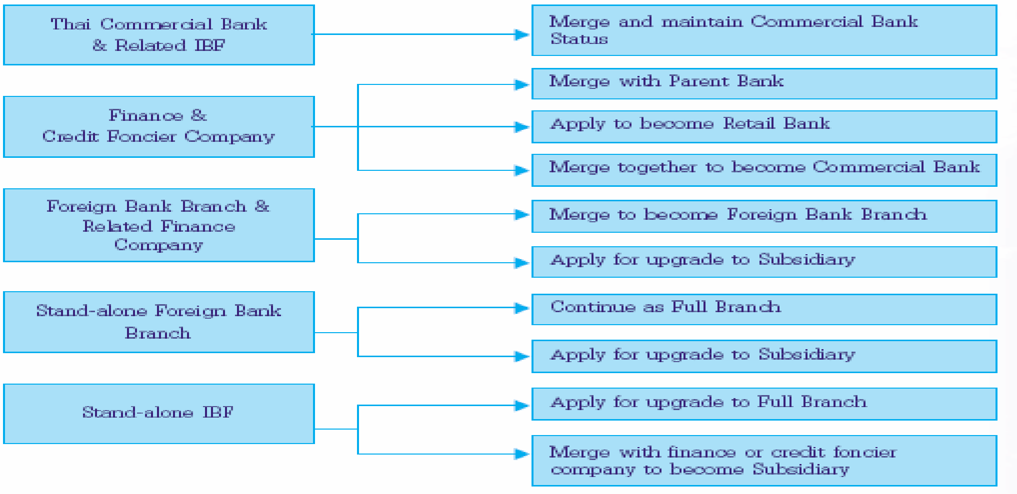
Foreign banking institutions have long had a presence in Thailand in the form of full branches and Bangkok International Banking Facilities ("BIBFs"). Under the Plan, full branches of foreign banks are still permitted, while BIBFs are replaced by subsidiaries of foreign banks. Both full branches and subsidiaries of foreign banks may engage in the same scope of business as commercial banks, but they differ in capital requirements and branch allowances.

Table 4: Key Characteristics for Commercial banks and Retail Banks

	Commercial Bank	*Retail Banks*
Tier 1 Capital requirement	More than 5 billion	More than 250 million
Scope of business	All financial service, except : (1) insurance underwriting; (2) brokering, trading, and underwriting of equity securities	All financial service, except : (1) insurance underwriting (2) brokering, trading, and underwriting of equity securities. (3) foreign exchange, (4) derivatives products (unless for banks' hedging purposes)
Potential customers	All	Retail customers and SMEs
Lending limits	25% of tier-1 capital	(1) 0.05% of tier-1 capital for clean loans to retial customers (2) 1% of tier-1 capital for loans with collateral to retial customers (3) 10% of tier-1 capital for loans to SMEs

Subsidiaries must maintain a minimum of Bt4 billion in capital. They are given a choice between keeping a maximum of four branches in the country (one of which is allowed inside Bangkok and metropolitan areas, and the remaining three outside) and merging or acquiring another institution in order to upgrade its status. Full branches, on the other hand, are required a minimum of Bt3 billion, but may not open any branches.

Figure 9: Restructuring of the Thai Financial System



Source: Bank of Thailand, Supervision Report 2004

As the result of the plan, the landscape of the Thai financial system has entirely changed. The industry undergoes an explosion of acquisition and merger. The number of financial institutions under the supervision of the Bank of Thailand reduced from 83 at the end of 2003 (before FSMP) to 44 at the end of 2004 (after FSMP). Moreover, the policy poises to develop new banking participants and fundamentally new banking strategies. The players in this new landscape will range from the larger "universal banks" offering a complete spectrum of financial services to the smaller, more niche customer- and product-centered banks handling specific needs. In essence, One-presence policy encourages *industry consolidation* and *more transparent presence of financial conglomerates* among players in the industry.

5.1.2. Establishment of Deposit Insurance

In the case of Thailand, an explicit deposit insurance scheme did not exist prior to 1997. The extent and urgency of the 1997 financial crisis prompted the Thai authorities to resort to a temporary blanket guarantee to regain confidence in the financial institution system. Although the blanket guarantee proved to be effective in curtailing deposit runs and restoring public confidence, it has incurred a substantial cost to the government. The blanket guarantee, that Thai authorities provided support through the Financial Institutions Development Fund (FIDF) has several weaknesses i.e. moral hazard problem, depositors' indifference to the riskiness of financial institutions, and substantial cost burdens to government.

Mindful of such pitfall, the authority is planning for the implementation plan to establish a deposit insurance system with a limited guarantee in place of a blanket guarantee. In this preparation, Deposit insurance agency (DIA) will be established and will take over the task of administering deposit insurance from the FIDF. The establishment of Deposit Insurance Agency would limit cost of deposit guarantee currently bared by government and the public. The limited guarantee scheme would motivate depositors to focus on financial stability of banks. The banks, in turn, would be pressured by depositors to improve their performance and increase discipline in credit risk management.

At present, the Deposit Insurance Act was approved by the Parliament in 2004 and the legislation is under reviewing of Supreme Court Committee.

5.1.3. Implementation of International Banking Standards

Among the most eminent international banking standards is the New Basel Capital Accord (Basel II) introduced in June 2004 by the Basel Committee on Banking Supervision. The Basel II is being adopted worldwide since its framework comprehensively gauges capital requirement commensurate with risks inherent in individual financial institutions, while providing options of approach dependent on their risk management capacity. In August 2004, the Bank of Thailand announced the Basel II implementation plan to commence the simple approaches[18] at the end of 2008 and the

[18].The first pillar of BIS II required banks to maintain minimum capital requirement for operational risk and credit risk. The approach for capital calculations include the Standardize Approach, Foundation Internal Ratings-Based Approach (AFIR), Advanced Internal Ratings-Based Approch (AIRA) for

more advanced ones at the end of 2009.

Moreover, the implementation of International Accounting Standard 39 (IAS 39), one of the most crucial accounting rules to financial institutions in terms of recognition and measurements of financial instruments will reflect more accurate financial positions of financial institutions. The Federation of Accounting Professions (FAP) plans to analyze and issue the IAS 39 in phases due to its complexity, while the Bank of Thailand will ensure that prudential regulations are consistent with the IAS 39 and subject to thorough impact assessment prior to enforcement.

5.1.4. Establishment of Credit Bureau

In the past, Thai banks were not able to obtain the real status of borrowers who borrow from many financial institutions. An inadequate information on borrower's debt obligation resulted in an incomplete picture of borrower's liabilities. Although there were several attempts to establish a credit bureau, the successful establishment happened only after the crisis when the need for credit information pooling became more urgent.

---

credit risk, Basic Indicator Approach (BIA), Standardized Approach (SA), and Advanced Measurement Approach (AMA) for operational risk.

Credit Bureau Act was passed in November 2002 and became effective in March 2003. The passage of the Act led to opening of two private credit bureaus. One is Thai Credit Bureau Company which is set up by The Ministry Finance majority owned by Government Housing Bank and a local technical partner named Processing Centre Company. The other is Central Credit Information Services which is initiated by Thai Banker's Association and owned by 12 Thai commercial banks and two other foreign partners. Currently, the two firms are merged.

5.1.5. Active use of Asset Management Companies (AMC)

Many financial institutions were unable to raise fresh capital or grant credits due to their high level of NPLs. These problems could be mitigated somewhat by transferring the NPLs to an AMC. As such, the NPLs would be managed by specialized experts who could speed up the NPLs resolution or increase the recovery rate. When commercial banks are left with mostly good assets, they can be expected to resume their normal banking business sooner. To support this process, the Government enacted the Emergency Decree on Asset Management Company, B.E. 2541 (1998) which grants privileges in terms of fees and taxes arising from the sale and transfer of assets of the financial institutions to the AMC. Financial institutions which own more than 50% of an AMC's shares must report its financial statements and calculate all prudential ratios on a consolidated basis.

Apart from private asset management companies, the key agencies responsible for expediting the process of debt restructuring are the Corporate Debt Restructuring Advisory Committee (CDRAC) and the Thai Asset Management Corporation (TAMC). The former was set up in 1998 as a facilitator or an independent intermediary in voluntary debt workouts with multiple creditors that are usually difficult to reach an agreement. Later CDRAC expanded its activity to small debtors who may not receive enough attention from banks. The latter was established in 2003 to manage impaired assets transferred mostly from state-owned banks and private asset management companies, in addition to debt restructuring and business reorganization.

5.2. Regulatory Changes

In addition to the industry reform, Bank of Thailand has strengthened several rules to improve credit risk management of Thai banks such as: loan classification and provision, concentration of loan to borrower, collateral assessments, connected lending, real estate credit, and loan review.

5.2.1. Loan classification and reserve provisioning

Prior to December 31, 1998, banks were required to classify their impaired assets into 3 categories: substandard, doubtful, and loss with loans being considered impaired or substandard after being delinquent for 6 months. Beginning with the accounting period ending on December 31, 1998 onward, financial institutions were required to classify and provision for their assets both on- and off-balance sheets according to the obligors' financial condition and debt repayment capability as well as the length of non-payments. Under the new rules, a loan which is 3 month overdue must be classified as substandard at the minimum. Provisioning requirements were assigned to each asset classification as follows:

(1) Assets classified as Pass require 1% provision

(2) Assets classified as Special Mention require 2% provision

(3) Assets classified as Substandard require 20% provision

(4) Assets classified as Doubtful require 50% provision

(5) Assets classified as Doubtful of Loss require 100% provision

(6) Assets classified as Loss shall be written off

5.2.2. Collateral assessments

Under the current regulation, asset classification does not depend on collateral values; nevertheless financial institutions are allowed to deduct collateral -at an appropriate market valuation- from the loan book values prior to the calculation of any required provision. In principle, the appraised value should closely reflect the collateral's current market value. The BOT imposed additional appraisal and valuation requirements to be used when financial institutions calculate the required provision for impaired loans and the loss from debt restructuring. Specifically, for financial institutions with capital less than 8 billion Baht, independently performed appraisals are required for loans with a book value greater than 25 million Baht. Those institutions with capital of at least 8 billion Baht are required to obtain an independently performed appraisal on all loans with a book value of greater than 50 million Baht.

In 2004, the asset classification and provisioning regulation was strengthened. The regulations require that collateralized portion of loans classified as doubtful of loss be subject to incremental rate of provisioning based on the length of overdue period, unless the loans have been restructured or legal actions taken by financial institutions against the debtors.

5.2.3. Connected lending

- Limiting a bank's lending to related companies to no more than 50% of shareholder's equity or 25% of the company's total liabilities or 5% of the bank's Tier 1 capital, whichever is lowest.

- Restricting a bank's lending to related companies where cross-directorship exists.

- Prohibiting senior executives and directors of a bank from holding directorships in more than three business groups.

5.2.4. Loan review

Banks must submit loan review and contingent liability reports to the Bank of Thailand every quarter. When reviewing the loans of a particular debtor, the contingent liability related to that debtor must also be reviewed. Furthermore, banks must review the contingent liabilities of the 20 largest debtors that have no outstanding balance on their loan accounts. In addition, banks must perform loan review via an independent review process that is separate from the credit approval process.

5.2.5. Credits in the real estate sector

1. Demand side: The amount of credits granted to any person for residence valued 10 million baht or more should not exceed 70 percent of the purchased price, whether the purpose is to purchase lands, condominiums, or houses, where such properties are used as collateral.

2. Supply side: Financial institutions should submit a quarterly report on approvals of real estate loans whose credit lines are equal to or more than 100 million baht. Such report will help the Bank of Thailand in monitoring the current condition of the real estate

business.

CHAPTER 6: CREDIT RISK MANAGEMENT AFTER THE CRISIS

6.1. THAI BANKS AND ITS CREDIT RISK MANAGEMENT CAPABILITIES

Thai banks are currently undergoing a progressive transformation. They are working hard to develop strong risk management practices and techniques in line with the Bank of Thailand's announcement of a phased approach to complying with the new Basel Accord (Basel II) by 2008. To examine the readiness of Thai banks for their risk management capacities before the implementation of Basel II, the BoT's research team[19] has conducted a survey during June to August 2005. The team asked eighteen CEO of leading Thai banks and foreign banks operated in Thailand to assess their banks' risk management system. Although the survey assesses several aspects of banks' risks, this paper will focus only on credit risk management.

From the survey, all participating banks responded that they had set up separate risk management committee to monitor overall risks. In some banks, they set up a separate unit to oversee credit risk in particular. The establishment of risk management

[19] Posayananda, Roong., Nakornthab, Don., and Jittamai Pajongjit, "Changing Macroeconomic Environment and Financial Landscape: Challenges for the Banking Sector, BOT Symposium 2005.

committee is in line with pillar two of Basel II in which requires bank to have in place the infrastructure to examine, to evaluate, and to supervise bank's risk management.

The survey indicates that Thai banks are in the process of preparing their infrastructure for using risk management tools such as Economic Capital and Risk-Adjusted Return on Capital (RAROC) in capital allocation decisions while foreign banks have already employed such tools in their capital allocation decisions. The concept of Economic Capital and Risk-Adjusted Return on Capital (RAROC) are used in calculating appropriate risk and return for loan pricing or allocation of banks' capital. Unlike regulatory capital or ROE method, Economic Capital and RAROC help banks to allocate capital more efficiently.

All banks in Thailand have prepared the *systematic loan grading and standardized internal rating* for corporate loan. This is a significant step because internal credit risk rating help bank in loan origination process, portfolio monitoring, analysis of the adequacy of loan loss reserves or capital, profitability and loan pricing analysis. The use of ratings would also provide significant inputs for the development of credit risk models of IRB approach in accordance to Basel II.

Most banks are developing their infrastructure to *integrate credit portfolio management models* into their credit risk management system. By looking at loans as a portfolio instead of individual loan basis, banks can balance risk and returns more efficiently. Credit portfolio management model(s) help bank setting lending limits and managing concentration risk. Examples of these models are KMV Portfolio Manager, Credit Metrics, Credit Risk+ and Credit Portfolio view.

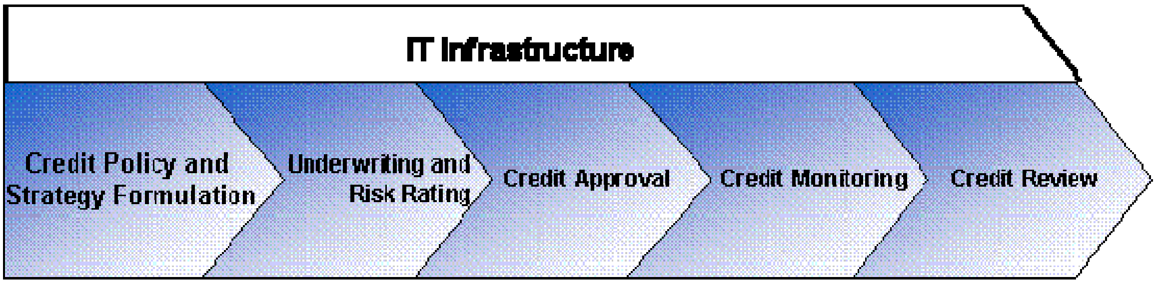
The survey also shows that foreign banks and hybrid banks use *risk-based provisioning methodology* while Thai banks are at the stage of preparation to employ such methodology. By having loan loss provision directly linked to loan risk profile means that banks set aside their capital for loan loss based on probability of default and economic value of collateral. Also in some cases, this methodology needs banks to reserve loan loss provision more than specific provision required by the BoT. These banks would face fewer problems when the BoT implemented IAS 39 in which the concept of economic value of collateral applied.

In general, the survey illustrates that all banks in Thailand are preparing themselves to scope with credit risk more efficiently.

6.2. CREDIT RISK MANAGEMENT BUSINESS PROCESS ANALYSIS

The author conducted the interviews with two senior credit managers at one Thai bank[20] regarding their views on general credit granting process. The author also collected information from several banks' annual reports to acquire the missing details. The followings are author's analysis on changes of credit risk management process of Thai banks after the crisis. The analysis will be analyzed from the initial process of credit policy and strategic formulation to the final process of credit review.

Figure 10: Credit Business Process Chain



6.2.1. Credit Policy and Strategy Formulation

- The Board of Directors is responsible for approving and reviewing credit risk policies and credit risk strategy.

- Previously credit staff was not well communicated on the credit objectives and

[20] To comply with the bank's policy, the interviewees requested that their names remain confidential.

policies. Bank management is aware of such weakness and has improved communication within the organization so that all level of staff involved in the credit management process has common understanding bank's credit policies and strategies. Bank's credit strategy usually includes target market, type of credit, economic sector, geographic location, maturity, and anticipated profitability. The strategy is to be review annually while the credit policy is to be updated regularly.

- Unlike the pre-crisis when there is only one risk committee to oversee all types of risks, many big banks set up separate Credit Risk Unit/Sub-committee to responsible for credit risk inherent in bank's business transaction or products.
- Thai bankers have increased their awareness on the importance of portfolio management by focusing on diversification and limit credit concentration on their portfolio. Bangkok Bank, for example, established a separate Portfolio Management Unit to responsible for bank's portfolio. In the case of Siam Commercial Bank, it hires the international consultant to develop a credit risk management solution that provides immediate credit portfolio analysis capabilities, exposure aggregation and customer categorization, and limit and exposure monitoring.

6.2.2. Underwriting and credit risk rating

- In the previous days, underwriting and credit rating especially on corporate loan was conducted based on individual credit manager's judgment. The process was quite at random and without standardized process. However, at present, Thai banks have improved the rating process to be more standardized with the establishment of clear guidelines and procedures on underwriting and credit risk rating. The use of credit scoring is applied for retail and medium-sized loan while the credit rating is used for corporate loan.

- In case of corporate loan, segregation of duties between Relationship Manager and Credit Analyst to prevent the conflict of interests.

- For underwriting a loan, banks do not only consider collateral as the fist way out. The concept of risk-based lending are emphasized and incorporated into their credit underwriting. Many banks state that they focus on basic credit principles without compromise – the real capacity of borrower to repay and willingness to repay the loan. Some of the factors put into bank's list of risk assessment questions are the purpose of credit and source of payment, expertise of the management, reputation of borrower, sensitivity of borrower's business and industry to economic and market developments, borrower's repayment history, cash flow projections, feasibility of the business proposition, and value of collateral.

- In the past, Thai banks priced loan based on relationship between the bank and customers. Realizing of such mistake, Thai banks are now pricing their loan with the consideration of borrower's risk.

- The concept of economic value added and risk-adjusted return on capital is applied in capital allocation and credit underwriting.

- In compliance with BOT's requirement for Thai banks to follow the IRB approach of BIS, banks have been collecting their loss database to develop their own internal credit risk rating models. Nakornthab Karnchanasia, and Piamchol (2004) indicate that Thai banking industry has lagged behind international best practices in credit risk management due to lack of quality default data both historically and at present[21]. However, Thai banks are currently working on their credit models and the estimation of their owned probability of default (PD). Nakornthep, Karnchanasai, Piamchol also note that it is probably too earlier to expect Thai banks to have their

---

[21] Nakornthab, Don., Karnchanasai, and Piamchol Suchot., "Bank Lending, the Housing Market, and Risks: A Test for Financial Fragility", Bank of Thailand's discussion paper, Bank of Thailand Symposium, September 2004.

own estimates of loss given default (LGD) and exposure at default (EAD) at this stage. Having owned PD data is already very good in the case of Thailand[22].

- In some banks, outside experts are hired to assist them in developing bank's credit risk rating. For example, Krung Thai Bank hired experts from ING banks to work on their credit risk rating models and system including also in the area of portfolio management.
- The timely and more accurate credit risk rating help bank to distinguish their risk more in detail. For example, Krung Thai Bank and Siam Commercial Bank increased their asset classification from 6 ranks to 13 ranks.

6.2.3. Credit Approval

There are several improvements in the credit approval function to avoid the conflict of interest and improve the economies of scale. Thai banks have set up the credit approval unit as an independent unit and separated it from business origination units. They also centralized the credit approval operation at head office instead of retail branch. In addition, the credit approval is put in the form of committee or group of 3 persons.

[22] ibid

6.2.4. Credit Monitoring

Thai banks have increasingly invested in their IT infrastructure to monitoring the credit risk status of their customers on real-time basis by looking at industry condition, market price of stock, economic conditions. The other warning signals, which are included into bank's credit risk monitoring system, are covenant deviation, collateral devaluation, portfolio concentration, related parties lending, outstanding loans (detecting unpaid loan of more than seven days), and so on.

6.2.5. Credit Review and Audit

In pre-crisis period, when the management blindly focus on credit growth while the enforcement of credit disciplined was lax, the audit review unit was not given much respect and important from the business unit. However, after the crisis, the role of credit review/audit unit has increasingly gained significance. Most big Thai banks have established a separate unit to responsible for review and updated procedures regularly. To avoid the conflict of interest, the credit audit unit is directly under the control of the Board of Directors not business unit as in the pre-crisis period. They will also summit the audit reports directly to the Board of Directors and senior executive staff.

CHAPTER 7: RECOMMENDATION AND CONCLUSION

7.1. RECOMMENDATIONS

7.1.1. Enforcement of disciplined credit culture

i. Bank's CEO and Management's discipline

"Institutions generally fail not because they lack elaborately prepared credit policies, procedures, but because they have a prevailing credit culture that makes the deployment of these systems, policies and procedures meaningless.[23]" After all these improvements in Thai bank's credit risk management business systems and IT investment, the challenges remains on how long the management will consistently adhere to this sound credit risk system. One important factor is the commitment from bank's CEO and senior management themselves to embed the credit risk management culture in the heart of the decision-making process of the bank. Therefore, Thai bank management should take personal responsibility for establishing and maintaining their organization's credit culture.

---

[23] Caouette John B., Edward I. Altman, Paul Narayanan, Managing Credit Risk: The Next Great Financial Challenge, Chapter 2 : Credit Culture, pg. 24-25.

ii. Compensation System

To shape the credit culture in an organization, bank's compensation system must be set up in way that promotes strong credit discipline among its staff. However, many Thai banks still struggle to find out the credit rewarding system that promotes the long-term profitability of the bank not the short-term growth. For example, most of relationship managers rarely monitor the quality of credit after they originate the loan. This is because many banks do not tie relationship manager's performance with the quality of credit. The management, therefore, should be aware of the fact.

7.1.2. Avoid Government Interventions

Thai banks, especially state-enterprise banks, often face the intervention from government authorities and politicians who push banks to expand their credits at high level. These interventions compel Thai banks to compromise underwriting standards, the practice that may lead Thai banks to repeat the same failure as in the pre-crisis period. The authorities should be aware of such risk and avoid such practice.

7.1.3. Training more expertise in risk management

Thai banks will also need to develop strong risk management practices and techniques in line with the Bank of Thailand's announcement of a phased approach to complying with the new Basel Accord (Basel II) by 2008. As the Thai banks prepare themselves through the purchase of new systems infrastructures, a number of outstanding issues remain. For example, who will operate these new risk management systems? Who will interpret and react to the new reports? And who can use this information to better guide the bank in its business decisions? In addition, as Basel II is a new concept in Thailand, the demand for experienced risk managers is in short supply. To solve this shortage of risk experts, The Bank of Thailand should implement domestically the certificate-training program, or the Thai authorities should allow more employment of international risk management experts.

7.1.4. Diversify collateral for bank lending

Now most Thai savings channeled to the domestic economy are channeled through a few banks and collateralized by property. This scarcity of collateral can lead to future booms and busts in property. Under the present Thai law, only certain types of property can be mortgaged, the law should be amended to allow banks to accept other forms of property as security such as receivables, inventory, etc. This could increase lending to SMEs, including those in the service sector.

7.1.5. Legal reforms in bankruptcy process

The legal and judicial regime for bankruptcy rehabilitation should be improved to disallow transactions among connected parties, which damage the estate. Further enhancements are needed to civil procedures to expedite the multi-year foreclosure process, both to obtain judgments and to sell the collateral.

7.1.6. Market Development for Derivatives and Securitization

The unbalance financial structure of Thailand where its depends largely on bank-credit. Thai financial market lacks sophisticated market for derivatives and securitization products that help companies and banks to effectively manage their risk. Therefore the enhancement in the infrastructure for derivatives and securitization is needed. Pakorn[24] notes the variety of financial products and the depth of capital market will shift the structure of Thailand's financial structure from bank-led to market-based intermediation. These will result in less volatility and great focus on profits as well as economic fundamentals.

7.2. CONCLUSION

The financial crisis in 1997 has inevitably brought about changes to the credit risk management of Thai banks and the Thai authorities. The Bank of Thailand has

---

[24] Vichyanond, Pakorn. Complicated Difficulties behind Financial Resolution: The Case of Thailand, Bangkok, March 2002, Thailand Development Research Institute, pg 30 No. 76.

introduced several proactive supervision measures to improve the credit risk management in the Thai banking industry. These measures include drastic reforms in Thai's financial structure and regulatory measures as well as adoption of international standards (BIS II). In the meanwhile, Thai banks have increased awareness in credit risk management by changing in lending behavior, focusing on portfolio management, and investing in IT infrastructure. Although there are still many changes lie ahead towards the betterment of credit risk management, Thai banks and Thai authorities are moving towards the right direction.

BIBLIOGRAPHY

Books

Coyle, Brian, Corporate Credit Analysis, Chicago: Glenlake Publishing Co. Ltd., 2000.

Caouette, John B., Altman, Edward I., and Narayanan, Paul. Managing Credit Risk: The Next Great Financial Challenge, New York: John Wiley & Sons, Inc., 1998.

Morsman, Edgar M., Jr. Commercial Loan Portfolio Management, Philadelphia: Robert Morris Associates, 1993.

Saunders, Anthony., and Cornett, Marcia Millon. Financial Institutions Management: A Risk Management Approach, International 4th Edition, Singapore: McGraw-Hill, 2003.

Sinkey Joseph F., Jr. Commercial Bank Financial Management in the Financial Services Industry, 3rd Edition, New York: MacMillan Publishing, 1989.

Scholarly Journal and Papers

Altman, E. I., Saunders, A., "Credit Risk Measurement: Developments Over the Last 20 Years", Journal of Banking and Finance 21 (1996): 1721-1742.

Charumilind, Chutatong., Kali Raja., and Wiwattanakantang Yupana, "Connected Lending: Thailand before the Financial Crisis", Journal of Business, forth coming, (retrieve from SSRR online)

Disyatat, Piti., and Don Nakornthab, "The Changing Nature of Financial Structure in Thailand and Implications for Policy", Bank of Thailand Discussion Paper, August 2003.

La Porta, Rafael, Florencio oLopez de Silanes, and Guillermo Zamarripa, Related lending, Quarterly Journal of Finance 118 (2003): 231-268.

Menkhoff Lukas., Neuberger Doris., and Suwanaporn Chodechai, "Collateral-Based Lending in Emerging Markets: Evidence from Thailand", Journal of Banking & Finance, Elsevier, vol. 30(1) (2006): 1-21.

Nakornthab, Don., Karnchanasai, and Piamchol Suchot., "Bank Lending, the Housing Market, and Risks: A Test for Financial Fragility", Bank of Thailand, Bank of Thailand Symposium, September 2004.

Posayananda, Roong., Nakornthab, Don., and Jittamai Pajongjit, "Changing Macroeconomic Environment and Financial Landscape: Challenges for the Banking Sector", Bank of Thailand Symposium, August 2005.

Siamwalla Ammar., and Vijiaksorn, Nattanan. "Public Payment of Private Debt: The Case of Thailand", Thailand Development Research Institute, 2003.

Supawassakul, Mathinee., and Nakornthab., Don, Banking Sector Fundamentals: Learning from the Recent Bank Lending Contraction, Bank of Thailand, BOT Symposium 2002 discussion paper, August 2002.

Treacy, William F., and Carey, Mark S., "Credit Risk Rating at Large U.S. Banks", Federal Reserve Bulletin 84-11 (1998): 897-921.

Vichyanond Pakorn, "Reforms in Thailand", Thailand Development Research Institute, TDRI Quarterly Review, December 1999.

Vichyanond, Pakorn. Complicated Difficulties behind Financial Resolution: The Case of Thailand, Bangkok, Thailand Development Research Institute, March 2002, pg 30

Vongvipanond Pairoj, Insolvency Systems and Risk Management in Asia, Forum on Asian Insolvency Reform 2004, New Delhi, November 2004.

Annual Reports and others materials

Bank of Thailand. Supervision Reports 2000-2004.

Bangkok Bank's Annual Reports 2000 - 2004

Bangkok Bank's Form 56 2003 - 2004

Bank of Ayudhaya's Annual Reports 2000 - 2004

Bank of Thailand's database Commercial Bank's Credit Risk Manual, BOT, 2003

Krung Thai Bank's Annual Reports 2000 - 2004

Kasikorn Bank's Annual Reports 2000 - 2004

Prof. David J. Behling's Lecture's material on Corporate Credit Analysis 2003, KDI School of Public Policy and Management

Siam Commercial Bank's Annual Reports 2000 – 2004

Thailand Economic Monitor, World Bank, November 2005

Zeufack, Albert, Thailand Productivity and Investment Climate Study (PICS), Thailand Productivity Institute (FTPI), National Economics and Social Development Board (NESDB), and World Bank, 2005

Sathitsuksomboon, Charunun, and Rattanopas, Dussadee. The Need for Secured Transactions Law, Tilleke & Gibbins International Ltd., September 2002

Interview

Credit managers at Krung Thai Bank
