ESSAYS ON LONG-RUN SOURCES OF ECONOMIC GROWTH IN PAKISTAN

By

Muhammad Arshad

DISSERTATION

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

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IN DEVELOPMENT POLICY

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Professor Hyeok JEONG

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SUMMARY

ESSAYS ON LONG-RUN SOURCES OF ECONOMIC GROWTH IN PAKISTAN

The essays presented in this dissertation aim to explore the effects of political regime on long-run sources of economic growth in Pakistan. First chapter examines the factors responsible for the regime change. Second chapter explores the long-run sources of economic growth under various regimes of Pakistan. Last chapter investigates how duration of a democratic regime affects economic growth. Main findings from each chapter are as follows:

Chapter 1: Factors Influencing the Regime Change

Since Pakistan became an independent state, it has experienced frequent change in political regimes, moving from democratic to autocratic regime three times. These frequent changes in regime motivate us to investigate systematically factors responsible for regime change. We use process-oriented approach to identify the exact timing and factors that explain regime transition. Our analysis show that regionalism, constitutional weakness, leadership crises, confrontation with the military and economic fragility are the main causes of regime change from democracy to autocracy. Similarly, the main factors that have forced the military to hand over charge to a civilian government are regional inequity, politicization of military defeat, judiciary confrontation and active media. Military's objective of 'nation-building' followed by institutional and corporate interests have been the main motives for a military coup d'état.

Chapter 2: Long-Run Sources of Economic Growth

What are the main drivers of economic growth for Pakistan? Using a growth accounting framework and econometric technique, a regime-wise analysis for the period between 1951 and 2011 is conducted. We noted that the growth rate under the autocratic regime was higher than that under the democratic regime. When output growth is decomposed into factor inputs and productivity, we found that fifty percent of output growth comes from labor. In terms of growth per worker, the share of factor inputs and productivity is same. Decomposition of per worker growth by regime shows that productivity growth was the main source for the first two autocratic regimes; whereas it was human capital for the last autocratic regime. Overall, we found that the main driver of the Pakistani growth has shifted from productivity to human capital. Econometric analysis shows that increase in life expectancy, public spending in development projects, and exports of goods and services are the main determinants of the level and the rate of growth of productivity. Investment in health facilities, net general government spending, and foreign assistance in development projects significantly determine only the level of productivity. In contrast, foreign direct investment, domestic credits to private sector and imports of goods and services have insignificant impacts on the level and the rate of growth of productivity. Our main finding is that, in the short-run, political regime matters in determining the level and the rate of growth of productivity. However, in the long-run, there are no systematic differences between democratic and autocratic regimes in determining productivity.

Chapter 3: Political Regime and Economic Growth

How does the duration of a democratic regime affect a country's income growth and distribution? Using an instrumental variable technique and Pakistan's time series data for the last six decades (1950-2010), we attempt to address this question systematically. A longer time may be needed to build good institutions. Alternatively, a

longer time may be required in pursuing policies persistently. Econometric analysis shows that economic growth is negatively related to the level of democracy. Duration of a regime matters but only as an auxiliary. If democratic government fails to provide an environment which is conducive for economic growth, then a longer duration of democratic government may reduce the growth of per capita GDP and worsen the income distribution. The results appear robust in various estimation techniques and descriptions.

Dedicated to my beloved Wife Uzma Arshad

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Muhammad Arshad
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Chapter 1

Factors Influencing Regime Change – An Investigation for Pakistan

1.1. Introduction

It is a common phenomenon that a country moves between one political regime to another. Huntington (1991) observes three waves of democratization[1] and two of its reversal[2] since 1825. This frequent back-and-forth transition remains a puzzle to which historians, researchers and analysts devote resources and time to understand the motive and factors for regime change (see Rustow, 1970; Geddes, 1999; McFaul, 2002; Diskin et al, 2005; Acemoglu and Robinson, 2006; Acemoglu et al, 2010; Bave and Kingston, 2010; and Samuel, 2012).

In this global wavering between democratization and anti-democratization, Pakistan is no exception. Since it became an independent state in 1947, it has been politically unstable and has experienced a number of regime changes, from democratic to non-democratic and back again. In its total life span of 67 years, there have been three military governments and four democratic regimes. This frequent regime change inspires concern to identify the factors that motivate regime change. The prime concern of this study is to explain why Pakistan has so often transited to and from democracy, and what factors can explain the transition from democratic regime to non-democratic regime and vice-versa.

The term 'regime' here refers to a political state which may be democratic or non-democratic. A democratic regime is one that puts substantial constraints on its chief executive, who is recruited through an open and competitive process (Marshall et al,

[1] First Wave: 1825-1925; Second Wave: 1945-1960; Third Wave: 1974 on.
[2] First Reversal Wave: 1925-1945; Second Reversal Wave: 1960-1974.

2012). By contrast, a non-democratic regime is one where the executive has unrestricted authority and gains the position by forceful seizure of power (ibid). Although a non-democratic regime may take various forms, for the purposes of this study we define a non-democratic regime as a military[3] regime that has forcefully overthrown a democratic government. We consider a regime to be non-democratic if power has been forcefully seized by the military and the head of the state is a member of the military.[4]

According to Gurr (1974), a regime is said to be changed if there has been substantial change in the country's political institutions. Regime change has been observed all over the world; regimes in Asia, Africa and Latin America have changed not only from democracy to non-democracy but also from non-democracy to military dictatorship. However, in case of Pakistan, the regime is changed only from democracy to military dictatorship or vise-versa. Military action to change the political regime is known as a military coup d'état.[5] Samuel (2012) defines a military coup as "[When] a country's armed forces overthrow a democratically elected civilian government and take control." In this study we count it as regime change when a regime transit to or from democracy.[6]

Kitschelt (1992) distinguishes two approaches for understanding regime change: structural and process-driven. A structural approach views regime change as mainly driven by institutional constrains and resources (see Lipset, 1959; Rogowski, 1989; Huntington, 1991). A process approach views regime change through the choice of its

[3] Though the term 'military' include Army, Navy and Air Force but for the sake of this study we mean 'Pakistan Army' only and we consider the terms 'military' or 'army' as interchangeable.
[4] For this study analysis, the terms non-democracy, autocracy and military dictatorship are interchangeable.
[5] Coup d'état is a French word which translates as "a blow against the state."
[6] We do not count it as regime change if a regime transits from one democratic to another democratic regime.

actors and their relative strengths (see Di Palma, 1990; Przeworski, 1991). These two approaches differ in methodology and research design. The structural approach focuses more on macro-level quantitative data or compares a country's regime via conceptually-driven qualitative data. The process-oriented approach relies on individual cases of regime change with trivial systematic comparison across countries. The prime advantage of the process approach is that it can identify exact timing of transition and characteristics of both existing and new regimes (Kitchelt, 1992). Since we have a country-specific time series, this study follows the process-oriented approach to identify the exact timing and factors that explain regime transition to and from democracy in Pakistan.

The literature has identified socio-economic factors that may influence regime change. For instance, Samuel (2012) classifies internal and external factors that can explain transition to and from democracy. The internal factors are civic engagement, political equality, solidarity, class conflict, modernization theory and resources, whereas external factors include US and Soviet Union foreign policies, globalization and the role of the European Union. Diskin et al (2005) empirically investigate socio-economic and politico-institutional factors that may be responsible for the collapse of democracy. He concludes that there is no single variable that explains this collapse, but that unfavorable history, malfunctioning economy, cleavage and foreign involvement are the most crucial variables.

For Pakistan, most studies investigate regime change from either an historical perspective (see Noman, 1990; Salamat, 1992; Jalal, 1995; Talbot, 1998; Amin, 2007) or a political one (see Wilcox, 1965; Heeger, 1977; Hassan, 2009; Hassan, 2011). A few studies investigate economic reasons for a military coup d'état (see Siddiqa, 2007

and Ibrahim, 2009), and only one study examines reasons for military intervention in Pakistan with a theoretical model (see Bhave and Kingston, 2010). This lack of studies provides an incentive to re-examine possible factors for regime change. Interestingly, most studies focus on the reasons for a military coup d'état; to our best knowledge, no study focuses on both transitions, from democratic to autocratic and vice-versa. Thus, we systematically investigate not only reasons for a military coup but also for the military handover to a civilian government.

The study progresses as follows: the next section briefly sketches Pakistan's political development from independence to the present. Section 1.3 reviews the regime change literature. Section 1.4 investigates factors responsible for regime change. The role of the military and its economic interests are examined in Section 1.5 and the last section concludes the discussion.

1.2. Background: Pakistan's Political Development

Pakistan's journey as an independent country began in August 1947, when it comprised two regions separated by a thousand miles, with no common boundary. One part was recognized as the West Wing, the current Pakistan; the other was the East Wing, the current Bangladesh. In language, culture and custom, the East and West Wings were entirely different; the only common element was religion. Figure 1.1 shows a brief timeline of Pakistan's major political events.

At the time of independence, Pakistan was politically and economically weak, with no proper constitution for the ethnically diverse country. Regionalism and provincialism reigned, which made the country politically weak. Weak political institutions and lack of political cohesion provided the opportunity for bureaucracy as well as the military to control civilian governments. With military or bureaucracy intervention, civilian

governments changed frequently. In its first decade the country had six prime ministers. This frequent change of political government put Pakistan on an unstable path and opened the door for a military take-over, which occurred on October 7, 1958, under President Iskander Mirza[7] and General Ayub Khan.

The major issue for this military regime was to gain legitimacy, so the military ruler initiated economic and land reform with a Green Revolution program and by boosted industrialization through export promotion. It introduced 'Basic Democracy' at the village or union/town level. In 1962 it promulgated a new Constitution for a Presidential form of government. However, their policies and negligence raised regional inequality, which was exploited by the political parties. Wars with India over Kashmir also raise questions about the military regime. Eventually, mass pressure compelled the military to hand over to a civilian government in December, 1971.

The newly-elected civilian government under Zulfiqar Ali Bhutto promulgated a new Constitution in 1973, diluting the power of the President and confirming a parliamentary form of government. It initiated labor, land and economic reform and nationalized almost all large-scale industries, education, banking and financial sectors. It minimized the role of the military and tried to bring the military under civilian control. However the government lost control when accused of rigging an election. Law and order began to break down, which triggered a second military coup d'état, led by General Zia-ul-Haq, on July 5, 1977.

This military regime used coercive powers to control deteriorating law and order, including the arrest of political leaders such as Prime Minister Bhutto for alleged involvement in a murder case. The military banned all political activity and put limits

[7] Before partition, he was a Major-General in the British Indian Army; he became Joint Defense Secretary (a bureaucrat) in 1946. After partition he was appointed Defense Secretary.

on the media; banned student and labor unions; and used force to crack down on the growing protests and demonstrations. The military introduced an Islamization policy with a corporate culture and Islamic banking, and Zia amended the Constitution to legitimize a Semi-Presidential form of government. The regime also benefited from US assistance to fight the Soviet Union's invasion of Afghanistan. During this regime the economy performed well, but the regime ended when Zia was killed in a mysterious plane crash on August 18, 1988.

A new civilian government was elected on November 16, 1988, when Benazir Bhutto[8] became Prime Minister. Within two years her government was dismissed by the President as a consequence of corruption allegations, and on October 24, 1990, Nawaz Sharif[9] became Prime Minister. The President again exercised his powers and dismissed the Sharif government on April 19, 1993 after accusations of misdeeds and mismanagement. However, Sharif successfully challenged the Presidential Order in the Supreme Court and was reinstated. Relations between President and Sharif worsened, and persuaded by the military hierarchy, both resigned from their posts on July 18, 1993.

The resultant election re-established Benazir as Prime Minister. This time she moved very carefully and elected a President of her own choice. Nevertheless, differences between the President and Benazir arose over time and on November 5, 1996 the President dismissed her government on accusations of misdeeds and corruption. Sharif won the next election with an overwhelming majority of two-thirds of seats. His strong mandate enabled him to reduce the presidential powers by amending the Constitution of 1973.

[8] A well-known politician from Pakistan's Peoples Party (PPP) and daughter of former Prime Minister Zulfiqar Ali Bhutto

[9] A well-known politician from Pakistan Muslim League

The country went to war with India over the Kashmir issue began at Kargil Post, with initial success, but the international community intervened and forced Sharif to withdraw his troops from their occupied area. The military, however, perceived this withdrawal as damaging to their institutional repute. Later, Sharif tried to sack General Pervez Musharraf – a military chief, which sparked another military coup on October 12, 1999.

Like his predecessors, General Musharraf abrogated the Constitution and declared himself Chief Executive. He introduced a number of economic and financial reforms, further deregulating and liberalizing the economy. His tenure enjoyed high economic growth with increased capital accumulation. However, a confrontation with the judiciary arose in March 2007, when he tried to sack the Chief Justice, sparking massive protests and demonstrations. He declared a national emergency and again abrogated the Constitution, which resulted in massive protest against military rule. The military had lost credibility, and Musharraf handed over regime to a civilian government on August 8, 2008. Since then Pakistan has enjoyed democracy, with substantial political power resting in the hands of the Prime Minster.

1.2.1. Political Regime and US – Pakistan Strategic Relationship

Pakistan's economic and political positions are of concern to the US, which considers that an economically and politically weak Pakistan would be a security threat. The US believes that a weak state and a fragile economy are fundamental causes for the promotion of extremism and terrorism (Tellis, 2005). Recognizing Pakistan's geo-political importance in the strategic regional interest, the US started civil and military

assistance to Pakistan just the nation became independent. By 2010, the US had provided around US$ 53.4 billion (2011 constant dollar) to Pakistan[10].

US economic assistance began just one year after Pakistan's independence; military assistance started in 1955 after Pakistan signed a Mutual Defense Agreement with the US (May 1954). However the flow of funds has not been constant (see Figure 1.2). Economic assistance peaked in 1962 (US$ 2.4 billion) and thereafter declined up to 1979 (US$ 132.4 million). Military assistance peaked in 1956 (US$ 1.1 billion) and then fell to US$ 0.43 million in 1972. The reasons for this assistance volatility may include Pakistan's joining the South East Asian Treaty Organization (SEATO) and the Central Treaty Organization (early 1950s), signing of a bilateral cooperation agreement with US (1959), aid for containing the spread of communism in the region, politically unrest, separation from East Pakistan, spreading of communism by Bhutto and Pakistan's nuclear enrichment program.

In 1979, President Carter suspended all assistance to Pakistan except food aid because of Pakistan's nuclear enrichment program. Later the same year the former USSR invaded Afghanistan; the US changed its strategy and revived economic assistance in 1981. Recognizing Pakistan's strategic geo-political importance, US aid again started to climb, reaching US$600 million (military) in 1985 and US$791 million (economic) in 1988. To reward Pakistan's support in the Cold War, the President Bush in the early 1990s tried to persuade Congress about Pakistan's nuclear weapons issue. However, he did not get success, and Congress suspended most aid.

The US 9/11 catastrophe was very beneficial for Pakistan economy. It received a substantial amount of foreign aid from the international community and foreign

[10] Economic assistance of US$ 41.5 billion and military assistance of US$ 11.9 billion

remittances from overseas Pakistanis. When the US initiated its War against Terror, Pakistan became an important strategic ally; economic and military aid shot up, reaching the 1962 peak in 2010: economic aid was worth US$2.1 billion and military aid US$946 million.

Reviewing Pakistan's US-led foreign assistance by regime, it is seen that around two-thirds of economic and military assistance was given to an autocratic government (Table 1.1). The three autocratic regimes received US$41.5 billion (economic) and US$12 billion (military) assistance. The most economic aid was for the first autocratic regime (General Ayub) and the most military aid was for the third autocratic regime (General Musharraf). Note that aid received by the current democratic regime is more than that received by the previous democratic regimes; this is assumed to be because of the US-led War against Terror, in which Pakistan plays an active role.

1.3. Regime Change – Theory and Past Evidence

Acemoglue et al (2010) provides a theory of military dictatorship by examining behavior of democratic and non-democratic regimes which use military as a tool for strengthening their regimes. They explained theoretically the conditions under which military act as an agent for elites. They argued that non-democratic regimes require power to maintain their regime but this strategy creates a moral hazard problem; a strong military may simply follow the instructions of non-democratic regimes (act like an agent) but stronger military may have incentives to create its own regime for protecting their own interest/objectives. One implication is that the prevalence of moral hazard problem may raise the cost of preventing coup because in political moral hazard problem non-democratic regimes need to pay higher wages or

concessions to military for avoiding coups. Another consequence is that when regime is changed from non-democratic to democratic, strong military continue to provide a threat to new democratic regime unless it is reformed. The expected future reform may motivate military further to go for coup against democratic regime.

Bhave and Kingston (2010) using game theoretic model explain the reason for military coup *d'etat* in Pakistan and Turkey. By following Acemoglu and Robinson (2010), they introduced military as a third player in the model. They argued that military though having enough power will not intervene into the political system and change the regime unless there is a threat on military institutional interest and elite group(s) ensures support to the military in post-coup society. Thus, a coup will occur in a national crisis when elite group(s) collectively supports the military action for regime change. The elite group has incentive to cooperate with the military because in this way, elite group become part of the government machinery and gain *de jure* power which can be utilized for protecting their own interest.

Acemoglu and Robinson (2006) explained how after the coup a non-democratic regime can sustain. In other words, they explain a motive for initiating action against non-democratic regime. They started their analysis by assuming that rich elite are in power and argued that the elite ruling group choses those policies that maximized their utilities. However, under the non-democratic regime, there is always a threat from other social groups or within the same non-ruling elite individuals for an attempt to overthrow the ruling regime. Thus, ruling elite has to choose those policies that maximized their own utility and also satisfied non-ruling individuals.

Lipset (1959) provided a theory of modernization which explains how regime changes from non-democratic to democratic. He argued that regime is more likely to be changed when economic development encourages people to change their behavior for the support of

democracy. In other words, regime change is a function of culture change that arises from economic development which increases citizen's income, reduces literacy, encourages people to go for better education, increases urbanization and exposure to mass media which make people aware about the public affairs and going politics. Rising education and awareness about the surrounding politic encourage people to fight for their rights and support democracy. Thus, as country becoming richer and richer, people stand for democratic regime. Lipset (1959) hypothesis has widely been debated and tested. Olsen (1968), Jackman (1973), Bollen (1983), Bollen and Jackman (1985), Muller (1988), Diamond (1992), Barro (1999), Epstein et al (2006) and others find positive linkages between economic development and democracy while Arat (1988), Sirowy & Inkeles (1990), Przeworski and Limongi (1997), Przeworski et al (2000), and Acemoglu et al (2009) and others fail to validate Lipset's hypothesis.

Bollen and Jackman (1985) estimate economic and non-economic determinants of political democracy[11]. They found economic development is the main economic determinant whereas Protestantism and British colonial experience are the main non-economic determinants of political democracy. They found cultural pluralism negatively while New Nation effect is positively related with political democracy.

Przeworski and Limongi (1997) determined various threshold of per capita income for the survival of democratic regime. Their findings suggest that when country's per capita income is larger than $6000 a year, democratic regime is more likely to survive. Similarly, a growing economy with per capita income is less than $1000 has more

[11] They measure political democracy as an index which consists of two major components: popular sovereignty and political liberty. For further details see Bollen and Jackman (1985), p.36-37.

chances for survival of its democratic regime than a country whose per capita income is between $1000 to $2000. They fail to find any evidence for 'consolidation'.

Globalization is an external determinant of regime change. If a country is more exposed to its neighborhood political, social and economic system, it is more likely that its domestic political regime absorb such external effects (Samuel, 2012). By virtue of globalization, citizens are more aware about the surrounding political affairs and they may learn how to deal with non-democratic forces and interest groups (Hungtington, 1991; Przeworski et al, 1996). This may help to build an internal force against non-democratic regime and resultantly democratization is more likely to be started. Thus, globalization may influence domestic regime.

In contrast, there are a group of people who believe that globalization reduces the prospect of democracy[12]. Their main arguments include globalization undermines the state autonomy in terms of policy shift from protection of common people interest to foreign investors (see Gray, 1996; Cox, 1997); globalization bring about more domestic loser than winner which increases unemployment and distort distribution of income (Muller, 1995; Rodrik, 1997; Longworth, 1998) and globalization also hurt economy through unfavorable balance of payment problem which may undermine economic performance (Diamond, 1992, Dahl, 1994, O'Donnell, 1994).

Onwumechili (1998) categorized reported causes of military coups as development and guardian. In his *development thesis*, the military generally initiates a coup when political government fails to manage the economy or is not nation-building. The military may justify its actions when there is an excessive rise in cost of living, as in the 1966 Ghana coup, or rising income inequality as in the 1980 Liberia military coup.

[12] See Li and Reuveny (2003) for full details

Finer (1962) argues that an increasing industrialization process decreases the likelihood of a coup. Lack of success in nation-building is another justification for military coup, when government policy marginalizes ethnic, religious or political groups. Wiking (1983) argues that military action was justified in the 1973 coup against Rwanda's President because of increasing disunity among the Rwandan nation.

The *guardian thesis* recognizes military coups as national defense to maintain political stability. Political instability generally exists when there is a political power struggle or a bad law and order situation or government actions are illegal. Political power struggles generally emerge after a general election, when a losing party fails to accept the result. Pakistan's 1977 coup was justified by the military for this reason. Military coups in 1966 in Burkina Faso and 1967 in Sierra Leone were justified as maintaining law and order.

Fossum (1967) analyzed factors influencing the military coup d'état in Latin America. He demonstrated that country size and the level of poverty are conducive for occurrence of military coup d'état. He further demonstrated that military coup d'état is more likely to be occurred around election times and deteriorating economic condition and has triggering effect on neighboring countries.

Johnson et al (1984) explained African military coup d'état. Their findings suggest that the states which are economically dynamic; un-socially mobilized before independence and have some degree of political participation and political pluralism have less experience of military coup d'état, attempted coups and coup plots than the states with the opposite set of characteristics.

Decalo (1990) points out that ethnic rivalries, jealousies and personal fears may be implicit causes of military intervention. He argues that some coups mainly involve

ethnic rivalries when a government marginalizes an ethnic group and the military take action in revenge.

Collier and Hoeffler (2005) examined the relationship between military coup d'état and civil wars using Africa states data. They showed similarity in causes of military coups d'état and civil wars. They fail to find any significant influence of political repression and economic inequality on the causes of coup d'état. However, low income and lack of economic growth has great influence on coups and civil wars. They also found that higher military spending further increases the risk of a military coup d'état. In 2007's study, they theoretically and empirically analyzed the relationship between military spending and the risk of coup d'état using global data. They found a non-monotonic relationship between risk of coup and military spending. Their interesting finding is that in low coup risk countries, government may reduce military spending while in high risk countries like African states, military may increase military spending.

Amin (2007) using Pakistan's 1977 military coup d'état as a case study, compared two dominant approaches for analyzing causes of coup d'état – societal perspective approach and soldier perspective approach. Societal perspective views the degree of institutionalization of political system, political participation, social mobilization, political chaos and economic development are the main factors for determining the risk of coup d'état. In contrast, the solider perspective approach tries to explain coup d'état by stressing on the 'coup-makers' grievances'. He showed that societal approach is better in explaining the causes of coup d'état.

Siddiqa (2007) studied Pakistan's military commercial interest. She showed that how military uses its business activities to generate personal economic stakes and loyalty

within and outside the military organization which military uses as a tool for pursuing its political ambitions.

Barracca (2007) compared two failed military coups d'état in Ecuador (2000) and Venezuela (2002) with successful Pakistan's 1999 military coup d'état. He showed that unity and cohesion within the Pakistan's armed forces in support of military coup d'état and its division in two Latin American countries are the main causes for having divergent outcomes.

Aziz (2008) examined the role of military in Pakistan. He rejected the commonly accepted views that "ethnic and religious cleavages and perceived economic or political mismanagement by civil governments triggers military intervention in Pakistan." He showed that Pakistani military has become a parallel state.

Ibrahim (2009) empirically examined the economic causes of military coup d'état in Pakistan. She uses four economic variables namely: real GDP, income per capita, defense spending and export earnings and found that low growth rate of these four variables are mainly attributed to the incidence of military coup d'état in Pakistan.

Hassan (2011) investigated various causes of military intervention in Pakistan and come to conclusion that not a single factor can be attributed to the cause of military coups in Pakistan, rather a cluster of factors motivates military to intervene into Pakistan's political affairs.

1.4. Factors Influencing Regime Change

Pakistan has experienced frequent regime change, from democratic to non-democratic and vice-versa. Since the nation's independence, there have been four democratic and three military governments. The major case of regime change from democratic to

autocratic has been a military coup d'état. However, reversal of this regime change has been either by smooth transition or because of pressure from politicians and civil society. Table 1.2 summarizes the details of regime change to and from democracy. The following discussion examines factors possibly affecting political regime change.

1.4.1. Regime Change: Democratic to Autocratic

Between 1947 and 1958, Pakistan had four Governors General, seven Prime Ministers and one President. This frequent change in government, and particularly of Prime Minster, generated political instability and smoothed the path for a military take-over, which took place on October 7, 1958; Figure 1.3 systematically explains the reason for this military coup d'état. The major factors that influence the regime to change are as follows.

1.4.1.1. Constitutional Dilemma

The Constitution is a vital document that set the 'rules of the game' for a country. It specifies roles, functions and responsibilities of all political actors and government organizations. Lutz (1994) argues that this document plays a critical role in a time of crisis and clash of interests that undermine democracy. If people support a Constitution and the constraints that it entails, it is more likely that the political system will survive. However, in Pakistan's case, the situation is slightly different.

In early life, Pakistan had no working Constitution. Jinnah[13] formed a Constituent Assembly in August 1947, which was asked to frame Pakistan's Constitution within two years; it actually took about nine years. The delay can be attributed to three major reasons. The first related to provincial autonomy: East Pakistan wanted full provincial autonomy, but West Pakistan could not agree, claiming that it would undermine the

[13] The founder of Pakistan

central power (Hassan, 2011). The second reason related to representation: East Pakistan wanted a bicameral legislature, with a Lower House elected on a population basis and an Upper House with equal representation of all provinces. This was strongly opposed by West Pakistan because the East Wing, having 54% of the population, would dominate (Khan, 2004). The third issue involved a dispute over declaration of a national language.[14] Thus, at an early age, conflict between the two Wings arose on distribution of power between the federation and its units.

Although the 1956 Constitution addressed East Pakistan's concerns and provided guidelines for the legislature, it failed to achieve political hegemony over the military and bureaucracy mainly because of regional politics and dominance of Western Wing politicians. The prevailing political instability and coalition among the bureaucracy, the elites[15] and the military paved the way for the first military coup d'état.

1.4.1.2. Regionalism

When Pakistan gained independence from Britain, it comprised East Pakistan and West Pakistan, separated by over a thousand miles, with India in-between. The physical distance created problems of communication and governance, with deep differences in culture, language, customs and economic structure. The one thing that united the two regions was religion: both were Muslim.

East Pakistanis were inspired by the Lahore Resolution, which offered provisional autonomy (Taha, 2012). But the dreams of the East Pakistanis were never realized after independence because of West Pakistan's dominance. Hassan (2011) expresses

[14] This issue is further elaborated under Section 1.4.1.2.
[15] The term 'elite' here refer to those members of the society who have disproportionate political and/or economic power (Bollen, 1990). These members may belong to judiciary, legislature and/or executive branch of government. It may also include landlords, business men, members of professional associations, or leaders of political parties, labor union, religious bodies or local bodies.

the feelings of East Pakistanis as follows: East Pakistan felt that they did not have their due share in central government and administration; they felt that their concerns were neglected and that West Pakistan had a dominant role. He argues that this promoted a culture of regionalism and provincialism, which in turn planted the seeds for political instability and political vacuum.

Conflict between the two regions arose just after the independence, when Jinnah showed solidarity with the Indian Muslims by declaring *Urdu* as the national language. But East Pakistan spoke only one language (Bengali) while West Pakistan was a multi-language region; interestingly, *Urdu* was not a mother tongue of any region (Chaudhury, 2012). Jinnah's authoritative style, however, enabled the issue to be resolved for the time being, but it remained alive in the heart of Bengalis (Hassan, 2011). The 1956 Constitution formally recognized *Urdu* and *Bengali* as the two national languages.

Physical separation of the two regions created not only a communications problem but also hindered mobility of capital and labor (Sayeed, 1980). The restricted mobility of resources coupled with overall economic policies tilting to the West engendered East Pakistan's economic deprivation. The issues of provincial autonomy, fair representation in administrative and governmental affairs and neglect of East Pakistan in economic development, were all constant political points of conflict. Such conflict made political institutions weak and unstable, which paved the way for the military to play a role.

1.4.1.3. Leadership Crisis

Another significant factor in political institution instability in the early stages was the fate of two prominent political leaders: Jinnah's natural death in September 1948, and

the assassination of Prime Minister Liaquat Ali Khan in October, 1951. These two leaders played an important role in the foundation of Pakistan. Jinnah dreamed of a country where everyone enjoyed social, political and religious freedom, a democracy with civil supremacy. He stressed the sovereignty of parliamentary institutions and considered the armed forces a 'servant of the people' (Hassan, 2011). After Jinnah's death, Liaquat wanted to realize Jinnah's dream. He prepared the 'Objective Resolution' in 1949 as a basis for the 1956 Constitution. However, he was assassinated in October 1951 during a political campaign. These deaths were a great loss and created a vacuum (Salamat, 1992).

Thereafter, Pakistan's political institutions became instruments of a civil bureaucracy and the military. The strength of this claim can be judged from subsequent actions of the bureaucracy and the military. For instance, in 1953 a rift evolved between the army and the Cabinet over foreign policy. The military wanted a close alliance with the US in a Mutual Defense Agreement, but Prime Minister Khawaja Nazim-ud-Din, an orthodox-minded personality, was against this (Kiran 2012). The military persuaded Governor-General Malik Ghulam Muhammad to dismiss the Prime Minister,[16] which he did in April 1953 without any major allegations of misdeed. This was the first military's indirect action to change the regime.

1.4.1.4. Doctrine of Necessity

The judiciary is a vital organ of the state, providing justice and guaranteeing protection of individual rights. It is essential that the judiciary be independent. However, till the recent past, the judiciary was not independent, but rather an

16 Kiran (2012) argues that General Ayub Khan and bureaucrat Iskandar Mirza were very close to Malik.

instrument for the ruling regime to validate their actions. This can be verified from the notable case of *Moulvi Tamizuddin vs. Federation*.

On October 24, 1954, Governor-General Malik dissolved the Constituent Assembly on the grounds that Prime Minster M. Ali Bogra had 'lost the confidence of the people' (Wheeler, 1955). Deputy Speaker and Constituent Assembly President Moulvi Tamiz-ud-din challenged the Governor-General's action in the Sindh[17] Chief Court, arguing that the decision was "unconstitutional, illegal, ultra vires, without jurisdiction, inoperative and void" (Salamat, 1992). The Court endorsed Tamiz-ud-din's petition and declared that the Governor-General did not have the power to dissolve the Assembly because he was not a member of that Assembly (Hassan, 2011).

The central government later took the matter to the Federal Court. Chief Justice Munir upheld the government position and said that the Sindh Chief Court did not have jurisdiction in the matter. The Court also invalidated all laws passed by the Constituent Assembly on the grounds that the laws did not have the assent of the Governor-General (Salamat, 1992). The Federal Court gave extra powers to the Governor-General to 'make laws or invalidate present or past laws' (Husain, 2010). Taha (2012) points out that Justice Munir confessed after retirement that he had made his decision after immense political pressure.

The Federal Court made its decision on the basis of the Doctrine of Necessity. Hassan (2011) argues that "the higher judiciary failed to perform its basic role of guardian of the Constitution for a democratic polity. It fundamentally failed to check arbitrary actions of heads of state in violation of established democratic traditions, and provided legal cover to an otherwise illegal and unconstitutional role, thereby opening

[17] Sindh is a province of Pakistan; the capital was at that time located in this province.

the door for subsequent military coups in Pakistan." Khan (2004) has similar views. This doctrine provided legitimacy to the military takeovers of Ayub, Zia and Musharraf (see Khalid, 2012 for full details).

1.4.1.5. Food Crisis and Declining External Sector

More fuel for the fire was the deteriorating economy in 1958, with a food crisis, general price rises, falls in export earnings and depletion of foreign exchange reserves. In 1957–58, the economy entered recession. All sectors of the economy showed a declining trend (see Table 1.3). The main setback was in growth of major crops, which declined by about two and half percent. Table 1.4 explains the crop position one year before the military coup; it is evident that production of all crops except rice, *bajra* (pearl millet) and barley was falling. The worst falls were in *jowar* (sorghum), lentils and wheat, which were a major part of the daily diet for the poor. The situation was worse in the external sector and in general price levels. Overall prices rose 7.8%; food prices were up around 11 percent (Table 1.5). There was also a substantial fall in export earnings, especially manufactured exports. Foreign exchange reserves declined by 27%.

The prevailing political vacuum coupled with decline in necessary food items, price rises of essential items and fall in foreign exchange earnings made economic conditions fragile, providing an excuse for the military to overthrow the democratic government in October 1958.

1.4.2. Reversal of Regime: Autocratic to Democratic

The regime changed from autocratic to democratic in December 1971 due to both internal and external factors. Internally, politicization of trickledown effects and neglect by the military of East Pakistan grievances made the situation worse.

Externally, defeat by India over Kashmir challenged military legitimacy. The combination of factors caused deterioration of law and order; demonstrators demanded fresh elections and the end of the military regime. So the military handed over governmental affairs to a civil government (see Figure 1.4). The following discussion explains briefly factors responsible for regime change from autocratic to democratic.

1.4.2.1. Growing Regional Inequality

Inequality is an important factor with inherent characteristics for regime change.[18] Rising inequities may encourage a transition from non-democracy to democracy or vice-versa. The main explanation is that inequality increases a distributive conflict between the elite rich and the poor. The former want to minimize redistribution of resources to the poor, the latter want to maximize this redistribution. When distributive conflict is high, the deprived poor react and put pressure on the ruling elite. Boix (2003) argues that when unequal wealth distribution increases the demand for redistribution; when the distributive conflict rises, the likelihood of democratic stability and democratization sharply declines. A similar argument is made by Acemoglu and Robinson (2006), who say that regime type mainly depends on a balance of power between the elite rich and the poor. Although the rich have *de jure* power, the poor can challenge the regime with *de facto* power through effective use of their strength in numbers, making substantial social turmoil and chaos, possibly leading to serious revolutionary threat. The higher the inequality, the greater the chances of regime change.

[18] See Acemoglu and Robinson (2006) for theoretical explanation of the impact of inequality on a tendency for regime change.

In Pakistan, the regime transited from non-democratic to democratic in the late 1960s mainly because of growing inter-regional inequality. To analyze the inter-regional disparity between East and West Pakistan, we first should understand the initial position.

In 1950, West Pakistan per capita income was slightly higher than in East Pakistan: the disparity ratio[19] was 1.17 (see Table 1.6). The income gap between the regions widened, particularly during the Ayub regime. When this regime began, the disparity ratio was 1.32: West Pakistan had a 32% higher income than East Pakistan. This became 1.68 by the end of Ayub's regime. One could here argue that East Pakistan's lower per capita income may be associated with its higher population growth. Table 1.7 clearly shows that this argument is not sustainable: East Pakistan's population share remained stagnant during the period under study.

The growing inter-regional disparity may have been the result of strategies adopted by democratic as well as military regimes. The main economic strategy at this time was industrialization through import substitution, and the way this implemented benefited West Pakistan more than East Pakistan. At independence, Pakistan lacked a proper industrial base; both regions were more or less the same (Stern, 1968). When industrialization began, it was more concentrated in West than in East Pakistan (see Figure 1.5). Stern (1968) argues that the government focus on West Pakistan may have been due to East Pakistan's poor infrastructure and the central government's physical presence in West Pakistan. These two factors and others[20] encouraged a more rapid industrial sector growth in West Pakistan.

[19] It is defined as the ratio of West Pakistan income over East Pakistan
[20] Such as banking and insurance facilities

Another factor fuelling agitation in East Pakistan against the West Pakistan democratic and military regimes was the transfer of resources from East to West. Undoubtedly, East Pakistan's export earnings generated a chunk of foreign exchange in 1950-65 (see Table 1.8). But the government's foreign exchange control and licensing policy encouraged more import concentration in West than in East Pakistan (Stern, 1968). The mechanism directing imports for either region worked as follows: each exporter was required to submit its foreign exchange to the central government, which then allocated licenses to importers (Zaidi, 2005). The government thus had substantial power through its licensing to direct import concentration. Table 1.8 indicates that in 1950-65, East Pakistan had a surplus trade balance, except in the last two years. By contrast, West Pakistan's trade balance was in deficit except in 1951 (due to the Korean War). The ratios of import over export in both regions clearly show resource transfer from East to West Pakistan. Import spending relative to export earnings of West Pakistan remained substantially high. Rahman (1968) maintains that the physical location of the central government coupled with a larger share of employment share influenced allocation of scarce foreign exchange towards West Pakistan.

The growing inter-regional disparity coupled with East Pakistan's 1970 election victory in absolute terms put tremendous pressure on General Ayub and then on General Yahya to hand over regime to a civil government.

1.4.2.2. Politicization of Wars' Defeat

Since independence, Pakistan felt under threat from India. Hussain (2012) points out four factors to explain hostile India-Pakistan relations. First is the ideological difference: Pakistan follows Islam and India believes in Hinduism. This was the main reason for the August 1947 separation of India and Pakistan. Second is Pakistan's fear

of India's sheer size and difference in endowment since independence. East and West Pakistan together cover an area equal to only 30% of India.[21] In 1950 East and West Pakistan together equaled only 23% of the Indian population. A third factor explaining hostile relations with India is the 'legacy of the trauma of partition.' A fourth is Kashmir, which both countries claim; the issue is still pending.

Two bloody wars with India (1965 and 1971) over Kashmir have played a role in the downfall of military regimes. In the 1965 war, Pakistan was substantially successful in restraining Indian aggression; however, United Nations pressure forced the military to surrender, which was unacceptable for political leaders and the general public. It was regarded as a national humiliation. The democratic forces politicized the situation and put pressure to hand over to a civil regime; the military could not resist and the regime changed in 1971.

1.4.2.3. Politicization on Distributional Economic Gains

Ayub's bureaucratic-led policies put the country on the development path. Under him, Pakistan's economy grew at an annual average rate of 5.6%. But his industrialization policies concentrated wealth in the hands of a few. Amjad (1982) points out that 44 monopoly houses controlled 35% of all large-scale manufacturing assets and 77% of investment in the manufacturing sector listed on the Stock Exchange. It was perceived that 22 families held about two-thirds of all industrial assets (Zaidi, 2005). The unequal distribution of economic gain was highly politicized by Zulfiqar Ali Bhutto[22] under the slogan "*Roti, Kapra aur Makan*" (bread, clothing and shelter). This Bhutto slogan effectively motivated the poor, working and middle classes against the regime; many people joined countrywide street protests, strikes and demonstrations. Another

[21] Since the area has not changed much, the 2010 figure may resemble relative sizes of 1947 (figures obtained from the World Bank, 2014).
[22] A well-known politician from the Western Wing

important factor in the downfall of the Ayub regime was the growing dislike of the East Wing for Ayub policies and the West Wing's dominance. Ayub tried to use coercive powers to control the deteriorating law and order situation, but failed. His image was severely damaged, and the military decided to change the regime face (Siddiqa 2007). Ayub had no option but to hand over to another general, Muhammad Yahya Khan.

1.4.2.4. Deteriorated Law and Order Situation

The military's change of face strategy did not bear fruit. Agitation, protests and demonstrations continued. Yahya announced a general election for October 1970, hoping for a civil government acceptable to the military. However the election results were totally beyond military expectations. Mujeeb-ur-Rehman[23] from the East and Bhutto from the West stood against each other. Mujeeb won an absolute majority and was able to form an independent government (Baxter, 1971). However, West Pakistan wanted a coalition government, which was not accepted by East Pakistan. A Cold War between the two Wings began, ending with separation of the two Pakistan's Wings and a war with India. The separation of the East Wing made it impossible for the military to continue to rule (Talbot, 1998). Yahya handed over to Bhutto, who had won the Western section of the 1970 general election. Shafqat (1997) argues that "it was not Bhutto's election victory but the tragic conditions caused by defeat in war that facilitated transfer of power from the army."

1.4.3. Regime Change: Democratic to Autocratic

The military overthrew the democratic government on July 7, 1977, mostly because of its dislike of Bhutto's economic reforms and confrontation with the military (see Figure 1.6). Discussion on each factor is in the following sub-sections.

[23] A well-known politician from the Eastern Wing

1.4.3.1. Nationalization Policy

Bhutto's nationalization and land reform policies weakened elite groups, particularly industrialists, businessmen, bankers and landlords, encouraging the July 1977 regime change. Bhutto's political agenda was to nationalize major units in the industrial, banking, insurance and education sectors. He had a firm belief that this nationalization policy would protect small and medium entrepreneurs against giant industrialists and transfer concentrations of economic power from the few to the many (Bhutto, 1979).

Although Bhutto's nationalization program was to be phased in gradually over five years, for analysis purposes we can divide the program into two phases.[24] Bhutto first nationalized 131 large-scale manufacturing firms, most in the capital, as well as intermediate goods industries (Zaidi, 2005). This phase did not disturb the larger elite group because the nationalized industrial units contributed less than 20% of all value-added manufacturing (ibid). His second phase altered the major structure of private holdings (see Figure 1.7). In this phase, he nationalized almost all the economy, from the financial sector to consumer goods industries, from the education sector to shipping and marketing firms. This rapid and massive nationalization of business invaded the domain of the elite, which then joined the military for regime change.

Bhutto's nationalization policy had two contrasting effects. He was able to gain the support of many lower and middle class people because his strategy offered employment opportunities: employment in the manufacturing sector rose from 8.3% in 1973 to 14.5% in 1979. The industrialization and subsequently nationalization created a middle class, but their participation in the political arena was almost non-existent (Zaidi, 2005). On the other hand, he lost the confidence of the elite group,

[24] The periods are based on policy influence on the elite group. First phase: January-March 1972; second phase: March 1972 to August 1976.

mainly comprising industrialists, bankers and small to medium businessmen. We here stress that these two contrasting effects were strong enough to legitimize his tenure early on and change the regime later.

1.4.3.2. 1977's Alleged Election Rigging[25]

Bhutto called a general election in March 1977, assuming that the prevailing democratic environment was in his favor. This was soon revealed as false when, within 48 hours of the announcement, the major political parties formed the *Pakistan National Alliance* (PNA) to oppose him (Bhutto, 1979). The PNA incited opposition to Bhutto's economic policies and coercive actions, which proved an effective political strategy. PNA's public meetings attracted larger audiences than Bhutto's (Weinbaum 1977), but surprisingly, the election results showed an overwhelming Bhutto victory, winning about 78% of seats (155 of 200 seats).[26] The PNA rejected these results and demanded the Prime Minister's resignation and a fresh election (Amin, 2007). PNA's demands were not accepted by the PPP, whose leader maintained the election was free and fair.[27]

Amin (2007) claims that there was well-planned vote rigging on a mass scale. Bhutto used coercive powers in his campaign and government machinery such as officers of the Commissioners, police, Federal Security Force (FSF), intelligence agencies, federal ministries and Prime Minister's Secretariat. Anyone unwilling to join his campaign was either transferred or sent on leave. Amin (2007) further asserts that on polling day, PPP staff, police and the FSF played an important role in turning the situation in favor of Bhutto. Interestingly, in several constituencies the number of votes cast exceeded the number of registered voters. Schwarz (1977) asserts, "Several

[25] This section sought information from Amin (2007).
[26] *The Pakistan Times*, March 10, 1977.
[27] Ibid.

PPP ministers themselves were seen harassing voters and stamping ballot papers themselves."

Bhutto's prior socialist and pro-labor policies made elite groups unhappy (Talbot 1998). They helped the PNA raise anti-Bhutto sentiment among the masses. They demanded a fresh election and held country-wide demonstrations and protests. The deteriorating law and order situation encouraged the army to take action. Unexpectedly, one of PNA's renowned leaders, Air Marshal (retired) Asghar Khan formally invited the military in a signed letter to take over government (Khan, 1983; Ameen, 2007; Hussain, 2010). Zia overthrow the democratic government and took charge on July 7, 1977.

1.4.3.3. Minimizing the Military Role

During his tenure, Bhutto abolished the post of Commander-in-Chief and shortened the time of military service (Bhave and Kingston 2009). Rizvi (1988) details Bhutto's steps in curtailing the power of the military, including restructuring the military high command to minimize their influence; reducing the tenure of military chiefs to three years; and establishing the FSF to help police maintain law and order. The military did not accept this intervention in their internal affairs and considered the FSF as a parallel force (Kamran, 2008). The military refused to train newly recruited FSF officers, and disbanded the force soon after taking power in the military coup d'état of 1977. Starting a nuclear program against military wishes was also important in increasing the military-Bhutto rift.[28] These factors and others created a Cold War between the democratic regime and the military, which only ended with the military take-over on July 5, 1977.

[28] The US strongly opposed Pakistan's nuclear program and ceased military assistance (Jalal 1995).

1.4.4. Reversal of Regime: Autocratic to Democratic

The fourth transition from a military autocracy to a democratic regime was smooth, mostly because of the death of President General Zia-ul-Haq in a plane crash on August 17, 1988. However, during his tenure the political situation had remained tense and political parties had joined hands against the military dictatorship.

Zia's authoritative style motivated some to speak up against his regime. Lawyers and students initiated a movement against his regime; in 1981 prominent political parties joined in the Movement for the Restoration of Democracy (MRD) (Kamran, 2008); their main demand was removal of martial law and free and fair elections under the 1973 Constitution (Rizvi, 1988). Initially the MRD could not get momentum for at least four reasons (Kamran, 2008). First, Zia used coercive powers to minimize its spread. Second, it was confined to one province (Sindh), and other provinces were neutral to the MRD call. Third, an improving economy and influx of foreign remittances minimized MRD's work against the Zia regime. Finally, Zia's strategy to Islamize the economy motivated many to support his regime.

The MRD got momentum in 1985 when Zia failed to honor his promise of an election. Eventually, Zia decided to hold a non-political party election, which MRD boycotted; but results show that most winners were member parties in the MRD. Zia chose M. Khan Junejo as Prime Minister, wanting someone who would work under his direction (Kamran, 2008). At first, Junejo followed Zia's wishes, but eventually there was a rift (Noman, 1990). Exercising power under the Eighth Amendment to the 1973 Constitution, Zia dissolved the Assembly on May 29, 1988 and re-impose martial law. Kamran (2008) says that a possible reason for dismissing Prime Minister Junejo was that he signed the Geneva Accord without Zia's support, and his open determination to punish army personnel found involved in an ammunition blast at the *Ohjri* Camp,

Rawalpindi earlier that year. Zia's regime ended on August 17, 1988, when he died in a mysterious plane crash.

1.4.5. Regime Change: Democratic to Autocratic

A major contributing factor to transition from a democratic to a non-democratic regime has been a power tussle between political parties, the army and the President. The President had three times dismissed a government and the civil-military relationship remained unpleasant. This created the environment for military coup d'état in October 1999 (see Figure 1.8). The following sub-section sheds light on these factors.

1.4.5.1. President's Absolute Power

A substantial contribution to weakening democracy in Pakistan has been the extra-ordinary powers of the President. General Zia, to legitimize his tenure, amended the 1973 Constitution with the Eighth Amendment. This has had far-reaching consequences for Pakistan's political stability. The Eighth Amendment empowers the President to interfere in any administrative matter, including removal of a prime minister and dismissal of a parliament.

After the death of General Zia, the regime became democratic; Benazir became the elected Prime Minister. During her tenure, the civil-military relationship remained poor. Talbot (1998) argues that the military felt discomfort in her regime and convinced the President to dismiss her. The President exercised his power under the 1973 Constitution of 1973 and Eighth Amendment and dissolved the National Assembly. The reason given was alleged corruption but Aziz (2008) argues that the main cause was the mounting differences with the military. He says that the removal of the Benazir government in 1990 was mainly because of differences with the

military over “Kashmir, Afghanistan, army promotions, [and the] control of intelligence agencies.”

The second Sharif government also fell victim to the President’s absolute power. Talbot (1998) gives two reasons for Sharif’s dismissal. First, Sharif planned to reduce the President’s power by amending the 1973 Constitution; second, Sharif’s apparent silence on support for the President’s re-election campaign. He says the President considered these as personal insults. Before Sharif could carry out his plan, the President dismissed Sharif’s government, claiming misdeeds and mismanagement (Khan, 2004). Sharif successfully challenged the Presidential Order in the Supreme Court and was reinstated. However, relations between Sharif and the President were exacerbated. The military persuaded both to resign their posts.

History was repeated and Benazir became Prime Minister, but was again victim of a President’s absolute power. This time Benazir had been very careful to appoint a President of her own choice. However, differences arose between them over the appointment of a new military chief and court judges (Hussain, 2010). Their relationship worsened when the government accused the President of involvement in the mystery of the murder of Benazir’s brother (Kamran, 2008). The President exercise his power and dismissed the Benazir government in November 1996, alleging corruption, mismanagement and misconduct.

Between 1988 and 1999, no democratic government completed its five-year tenure; all were dismissed by the President or the military. The power game between the military, civilian governments and the President created political instability which paved the way for the military to maximize its institutional and corporate interest.

1.4.5.2. Civil-Military Relations

After the death of President General Zia, the regime became democratic; but the government-military relationship remained poor. Shafqat (1997), Talbot (1998) and Siddiqa (2007) point to several reasons for this. First, the Benazir government started to interfere in professional military matters such as the appointment of the Chief of Joint Staff Committee and Core Commanders, which the military considered purely internal matters. Second, the democratically-elected government was claimed to exceed constitutional limits by removing or appointing military chiefs, which under the Constitution is the responsibility of the President. Third, the government intervened in the army selection board's promotion of personnel. Fourth, Sharif's foreign policy, particularly on very sensitive issues like Kashmir or Afghanistan, did not involve consultation with the military. Lastly, the army initiated 'Operation Clean Up' in Karachi to control the deteriorating law and order situation. Sharif was uneasy because it created political problems for him (Talbot, 1998).

Another factor leading to the military overthrow of the democratic government was military feelings about the surrender of Kargil Post. As stated above, Kashmir remained in dispute between India and Pakistan. In the 1990s, the operations of Kashmiri freedom fighters brought this issue to the top of the world agenda. It became even more serious in May 1999 when Kashmiri freedom fighters occupied Kargil Post, 5km inside Indian-occupied Kashmir. The Indian army claimed the Pakistani army was supporting the Kashmiri freedom fighters. Tension heightened at the line of control, ending in war between the two countries. The Pakistani army captured strategic posts in Kargil district, but after intervention by the international community, Sharif ordered the force to withdraw. The army was unhappy, feeling that this damaged their image and reputation (Barracca, 2007). Later, Sharif blamed army

chief General Pervez Musharraf for starting the incident and tried to remove him from his post (Bhave and Kingston, 2010). The military immediately overthrew the Sharif government and the regime changed from democratic to autocratic.

1.4.6. Regime Reversal: Autocratic to Democratic

Confrontations with the judiciary and media independence have been major driving pressures for the military to hand over government to a civil regime (see Figure 1.9). The following sub-section briefly explains these factors and their influence on changing the military regime.

1.4.6.1. Confrontation with Judiciary

One major factor pushing the autocratic regime to hand over to a democratic government is confrontation with the judiciary. This arose when the military ruler try to sack the Chief Justice of Pakistan, alleging that he had abused his office. Iqbal (2012) argues that the main reason for the clash was judiciary independence and rulings against military decisions. Most notably this involved the Pakistan Steel Mill Privatization Case, the *Hasba* Bill Case, the Missing Person Case and a case concerning Musharraf's eligibility for re-election.

Musharraf's decision to dismiss the Chief Justice spurred protest by lawyers, students, human rights organizations and civil societies, claiming that it was an illegal and unconstitutional removal. Momentum grew when political parties joined the lawyers and other organizations. Demonstrations and rallies were held against the military regime. It got worse when over 40 protestors died in an MQM[29] rally on May 12, 2007, in Karachi (Kamran, 2008). On July 20, 2007, the Supreme Court reinstated the Chief Justice and rejected all allegations leveled by President Musharraf. The

[29] *Muttahida Quami Movement* – a well-known political party

President declared a national State of Emergency Law on November 3, issued an Executive Order to dismiss the Chief Justice, and ordered all Judges to take a fresh oath under a Provisional Constitutional Order.

It was Musharraf's illusion that he could imposing a national State of Emergency which would be welcomed by the elite and other people, because of support for the earlier military coup d'état (Iqbal, 2012). He failed to recognize that the situation had systematically changed for at least three reasons. First, it had been a coup against 'the man of crisis' considered a dictator grabbing control over all institutions.[30] The current military move was against the judiciary, one of Pakistan's most respected institutions. Second, earlier military coups were legitimized by the Supreme Court on the basis of the Doctrine of Necessity. This time the coup was against the Court, not a civil government. Finally, in the earlier coup d'état, the media was closely controlled by the government. When Musharraf declaring emergency law, the media was free, and most private media was closely analyzing his every move. His declaration of an Emergency Order sparked strikes, protests, demonstrations and rallies in favor of the Chief Justice and demanding the end of military rule. Musharraf could not resist the democratic pressure; he reinstated the Chief Justice and stepped down himself.

1.4.6.2. The Role of Media

Information is key to understanding a regime, its policies and strategies. For a democratization process, citizens need free access to relevant information. Downing (1996) says that the media are critical in power game in every regime. The media accelerate struggles for regime change, facilitating the transition process and playing a watchdog role during and after transition.

[30] See BBC News "Opposition Happy at Sharif's dismissal," October 13, 1999. (http://news.bbc.co.uk/2/hi/south_asia/473124.stm) (accessed on October 3, 2014)

In Pakistan, the media remained closely controlled by the government until Musharraf's regime, which allowed press freedom. Before the military coup d'état, there was only one official television channel, broadcasting under government censorship. The military regime opened this sector to private investment in late 2002. This liberal media development policy enabled freedom of speech and expression (Iqbal, 2012). The regulatory authority of PEMRA[31] by October 2014 had issued 87 media licenses, 38 of which were news channels. After abolition of the official channel's monopoly, Pakistani was well-informed which boosted the democratization process.

In terms of international ranking, Pakistani media is still not completely independent[32] but there is no doubt that media efforts to increase awareness at the micro and macro level have been substantial. This is validated by the media role during the lawyers' movement to defend the judiciary against coercive military powers. When Musharraf forced the Chief Justice to resign, the media helped mobilize the public. Coverage of information about the military action against the Chief Justice encouraged many people to join the lawyers and human rights organizations. Mobilization through the media was an effective instrument for democratic forces to pressure the military to hand to a civil government; the military could not resist the sustained pressure for a hand over.

1.5. Military's Motivation in Changing Regime

The main reason for having a national army is defend the nation against aggression. But some countries[33] may have a military with a different ideology. The military may,

[31] Pakistan Electronic Media Regulatory Authority
[32] In 2007, Pakistan's world ranking in the Press Freedom Index was 152 of 169 countries.
[33] Like Pakistan, Thailand, Turkey, Chile etc.

for instance, consider that they are not subject to civil government control but are an independent and prestigious institution (Samuel, 2012). They may not like the national Constitution but consider it just a piece of paper that guides running a state. Military leaders may believe that they serve a higher power, which they called the nation. They may claim that no one is above the nation and if a government undermines national values, integrity or identity, then it is the military's responsibility to protect those values. In countries like Thailand or Pakistan, with weak political institutions, the military high command may consider politicians as corrupt and incompetent to protect the nation and that military intervention in the government is necessary.

There is no doubt that military is one of the most powerful and critical Pakistan's institutions. Its strength and professionalism has been recognized time and again, both domestically and internationally. It is one of the institutions upon which the nation relies most. Its protection against Indian aggression since independence has been tremendous. However, Pakistan's civil- military relationship remains poor. There have been three military-initiated coups against democratically-elected governments and the army has ruled the country for about 32 of its 67 years. Why has the military initiated a coup time and again against a democratic government? This is a fundamental question which this sub-section tries to address.

1.5.1. Military Perceptions about Politicians

One reason that inspires Pakistani military officers to initiate a political coup is their perception of the politician. They believe that politicians cannot run an economy, they are corrupt and particularistic, and do not protect the public interest. They believe that

the military is a professional institution with the ability to manage an economy; this the military rulers say after a successful coup d'état.

President Mirza, after the first military coup d'état, justified his action by saying "for the last two years, I have been watching, with the deepest anxiety, *the ruthless struggle for power* [and] *corruption* [by politicians]…. Despite my repeated endeavors, *no serious attempt has been made to tackle the food crisis*…. We have undertaken *to safeguard the security of Pakistan*…"[34]

Similar justifications were offered after the second military coup d'état" "It must be quite clear to you now that when *political leaders fail to steer the country out of crisis*, it would be an inexcusable sin for the Armed Forces to sit as silent spectators… I saw no prospect of compromise between the People's Party and the PNA… *It was feared that the failure of the PNA and PPP to reach a compromise would throw the country into chaos.*.. The Army had, therefore, to act, as a result of which the Government of Mr. Bhutto has ceased to exist: *Martial Law has been imposed throughout the country*…."[35]

The third military ruler justified his action by saying, "[Pakistan today] has reached a stage *where our economy has crumbled, our credibility is lost, state institutions lie demolished*…. In sum, *we have lost our honor, our dignity, our respect in the comity of nations*…"[36]

[34] Cited in Hussain (2010).
[35] Ibid.
[36] General Pervaiz Musharraf: address to the nation on October 17, 1999. (http://fas.org/news/pakistan/1999/991017-mushraf_speech.htm) (accessed on September 12, 2014)

1.5.2. Perceptions about the Constitution

Pakistan's military, like others, puts the nation over and above the Constitution. They consider the Constitution as just a piece of paper helping to protect the nation, its identity, integrity and values. High military officials sometimes consider themselves independent from civil authority and have initiated actions against an elected government, which they strongly believe is good for the nation. The third military coup d'état clearly supports this argument. After the coup, the military leader addressed the nation, saying "the choice before us on 12th October was between saving the body - *that is the nation*, at the cost of losing a limb - *which is the Constitution - or saving the limb and losing the whole body*. The Constitution is but a part of the nation, therefore *I chose to save the nation* and yet *took care not to sacrifice the Constitution*."[37]

1.5.3. Perception about a law and order situation

Military officials usually dislike chaos, protest and drastic change. They often intervene in political affairs when they perceive that the law and order situation is messy and disorderly, which may destroy the nation. They believe that a politician should behave in an orderly way and resolve political issues without risking law and order. The intentions of the military rulers in a coup d'état can be seen from their justifications given to the nation.

When Ayub failed to control law and order, he handed over to General Yahya Khan, who told the nation that he intended to imposing Martial Law: "I have imposed *Martial Law* throughout Pakistan… [because] the *situation has deteriorated to such an extent that normal law enforcement methods are totally ineffective… Serious damage to life and property has occurred… Production has fallen to a dangerously*

[37] Ibid – [italic are mine].

low level and the *economy generally has suffered an unprecedented set-back…* The armed forces could not remain idle spectators …My sole aim in imposing *Martial Law* is to *protect life, liberty and property …*"[38]

Zia had a similar justification: "It was feared that the failure of the PNA and PPP to reach a compromise *would throw the country into chaos…* The Army had, therefore, *to act…."*[39]

1.5.4. Pakistan's Military Corporate Interests

Undoubtedly the main purpose of the military in any economy is to protect from external aggression. Pakistan is no exception; its military has played its role very well and protected the motherland on several occasions not only from external aggression but also from internal threat such as terrorism. While protecting the nation, soldiers risk limbs or even life. For their welfare, financial protection of their dependents and their retirement benefits, the Pakistan military has established three foundations: the Fauji Foundation (for Army) in 1954; the Shaheen Foundation (for Air Force) in 1977; and the Behria Foundation (for Navy) in 1982. The Pakistan military also established the Army Welfare Trust in 1971 to look after the 1965 war *Shuhuda* (martyr) dependents.

The basic purpose for these organizations is very noble, but over time they have penetrated deeply into the economy and have become the nation's largest industrial conglomerate (Bangash, 2014). They have invested in most sectors, including Fertilizers, Agriculture, Aviation, Oil and Gas, Sugar, Cement, Power Generation, Food, Real Estate, Financial, IT, Telecommunications, Garments, Education, Health Care, Hospitals and Private Security (see Appendix 1-A for further details).

[38] Cited in Hussain (2010)
[39] Ibid.

Besides establishing the country's largest industrial conglomerate, the military have direct involvement in the Construction, Transport and Communications sectors. It established the Frontier Works Organization in 1966 to provide manpower and technical support to the construction sector, particularly for building roads and bridges; they created the National Logistic Cell in 1978 to cater to rising demand to carry goods from the port city of Karachi to the rest of the country, and established Special Communications in 1976 to provide communication services to Pakistan's Northern Area, including Azad Jammu and Kashmir.

The Pakistani military is not only army in the world with economic investment; countries whose militaries have a stake in the economy include the US, the UK, France, China and Turkey. Siddiqa (2007) argues that what differentiates Pakistan from the other countries is its control over businesses. In the US and the UK, the military operate in partnership with the private sector and government. The Chinese military has partnerships with leading parties and individual leaders. In Pakistan, the military is a sole owner of a business.

What drives the military to so penetrate the private sector and what are the consequences? The following discussion systematically tries to address these questions.

The foremost purpose of the above conglomerates is welfare, social security and retirement benefits for serving and retired armed forces members. As claimed by the army, they contribute substantially to the national economy in output, job creation and tax. They also provide opportunities for senior military leaders to reap economic gain after retirement. Running these businesses makes the institution financially autonomous; and last but not least, as the sole owner of these conglomerates, the

military is a stakeholder, with the incentive for direct or indirect involvement in the policy making process.

In discussing the consequences of military involvement in the private sector, Siddiqa (2007) argues that it has long-lasting impact on the economy, society, politics and the military itself. As a leading player, the military enjoys monopoly power which distorts markets.

Second, since the military has a single line budget, it is likely that public funds are transferred to private military businesses, a burden on the exchequer.

Third, distribution of gains from these businesses has two long-lasting impacts on a relationship: the distribution within the military produces loyal officers; and gains distributed outside the military makes long-lasting relationships with beneficiaries, who are often key political and economic players.

Finally, these businesses give the military a way to interact with the corporate sector, businessmen, professionals, academicians, agriculturists and other key players. Since foreign businesses are also invested in these conglomerates, the military has good relationships with external players.

In sum, from our point of view, the impact of the last two points (distributional effects and interaction with key economic and political players) is strong enough to support whenever the military initiates a coup against a democratic government.

1.6. Pattern of Regime Change

The regime change literature has reported that there are four main reasons for regime change: (i) political, (ii) economic, (iii) social and (iv) institutional. Table 1.9 reports the pattern of Pakistan's regime change. We can observe from Table 1.9 that there are

some similarities and differences in change of regime either from democratic to autocratic or vise-versa. For instance, in all cases, political parties played an important role in changing regimes. In case of regime change from democratic to autocratic, uncooperative behavior among the political parties provide an opportunity to military to take over the regime, however, in reverse case, political parties join hands to put pressure on military rulers to hand-over the regime to civilian governments.

Interestingly, in case of Pakistan, economic factors change the regime only from democratic to autocratic not vise-versa. One possible explanation for this pattern is that economic situation under the autocratic regimes remained well as compared to democratic regimes (see Chapter 2 for further details).

Literature has shown that social groups and civil societies played an important role in changing regime from autocratic to democratic (Aleman, 2005; Acemoglu and Robinson, 2006; Klopp and Zuern, 2007). However, in case of Pakistan, the social groups are mobilized not only for regime change from autocratic to democratic but also for democratic to autocratic. As explained in Section 1.4.3, the opposition political leaders mobilize the social groups against alleged election rigging of Bhutto in late 1977.

Another interesting pattern emerged from the analysis is that constitutional weakness provides a room for regime change from democratic to autocratic. As explained above, in early years of independence, lack of constitution made a political vacuum which motivate bureaucracy and military to play role. Later, each military ruler amended the constitution to legitimate his tenure by empowering the President. These powers were utilized by civilian Presidents for removing the democratic governments in 1990s (see Section 1.4.5.1). The frequent change of democratic governments encourages political

instability which later provides an opportunity to military ruler to take-over regime from the civilian government.

In sum, Table 1.9 indicates that the pattern of regime change from democratic to autocratic is different from autocratic to democratic.

1.7. Conclusion

Pakistan became an independent state without proper legislation, Constitution or economic base. These unfavorable initial conditions seem to have had far-reaching impacts on Pakistan's political development. Pakistan failed to develop its political institutions early mainly due to an absence of Constitutional guidance or visionary leadership, coupled with unbalanced political, economic and administrative power between the East and West Wings. These factors enabled the bureaucracy and military to play strong roles.

Pakistan's army is professional and well-organized. However, its political involvement, particularly at the nation's early foundation stage, changed its roles and objective. It seems willing to intervene in political affairs with the noble objective of 'nation building' but its after-intervention activities show that the aim of intervention is to protect its own institutional and corporate interests.

Democracy has not taken root in Pakistan mainly due to its weak political institutions, lack of active civil societies and middle class, ethnic politics and low education levels, coupled with a strong elite, bureaucracy and military. Analysis shows that Pakistan's judiciary, bureaucracy and military institutions are not playing the role which they are supposed to play.

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Table 1.1:Regime – Wise US Foreign Assistance to Pakistan

(Billion US $)

Regime	US Assistance		Total
	Economic	Military	
R – I : Democratic	4.0	1.8	5.8
R – II : Autocratic	19.6	2.6	22.2
R – III : Democratic	3.5	0.0	3.5
R – IV : Autocratic	4.9	3.2	8.1
R – V : Democratic	1.7	0.7	2.4
R – VI : Autocratic	3.9	1.6	5.5
R – VII : Democratic	4.0	1.9	5.9
Total: Democratic	**13.1**	**4.4**	**17.6**
Total: Autocratic	**28.3**	**7.5**	**35.8**
Grand Total	**41.5**	**11.9**	**53.4**

Note: *Figures are inflation-adjusted and presented in 2011 constant US$.*
Source: *US Overseas Loans and Grants – Obligations and Loan Authorizations (Greenbook) (*http://gbk.eads.usaidallnet.gov/) (assessed on 2013/11/17)

Table 1.2: Details of Regime Change to and from Democratic

Transition	Who	Whom	When	Why
Democratic to Autocratic	President (Iskandar Mirza)	Prime Minister (Malik Feroz Khan Noon)	October 07, 1958	Power tussle, political instability, food crisis etc
Autocratic to Democratic	Politician (Zulfiqar Ali Bhutto)	President (General Yahya Khan)	December 20, 1971	Handover charge due to political and civil pressure
Democratic to Autocratic	Military Chief (General Zia-ul-Haq)	Prime Minister (Zulfiqar Ali Bhutto)	July 07, 1977	Political instability and deteriorated law and order condition
Autocratic to Democratic	Acting President (Ghulam Ishaq Khan)	President (General Zia-ul-Haq)	August 17, 1988	Zia's Death in plane crash
Democratic to Autocratic	Military Chief (General Pervez Musharraf)	Prime Minister (Mian Nawaz Sharif)	October 12, 1999	Confrontation with military on Kargil Issue
Autocratic to Democratic	Acting President (Mohammadmian Soomro)	President (General (Rtd.) Pervez Musharraf)	August 18, 2008	Handover charge due to completion of tenure

Source: *Author's compilation based on information obtained from Pakistan's National Assembly website (http://na.gov.pk/en/presidents.php) (assessed on August 13, 2014)*

Table 1.3: Sector wise Economic Growth during 1957 – 58

(% age)

Economic Sector	1957	1958	Δ
GDP Growth	3	2.5	-0.5
Agriculture	2.3	1.9	-0.4
Major Crop	3.6	1.2	-2.4
Industrial	5.9	5.6	-0.3
Service	2.8	2.1	-0.7

Data Source: *State Bank of Pakistan (2010)*

Table 1.4: Essential Crop Production during 1957 – 1958

('000' Tones)

Crops	1957	1958	% Δ
Wheat	3639	3564	-2.1
Rice	844	875	3.7
Maize	469	447	-4.7
Gram	692	664	-4.0
Bajra (Pearl Millet)	314	329	4.8
Jowar (Sorghum)	259	186	-28.2
Barley	116	127	9.5
Moong (Mung Bean)	26	22	-15.4
Mash (White Lentil)	13	12	-7.7
Masoor (Red Lentil)	34	31	-8.8

Data Source: *State Bank of Pakistan (2010)*

Table 1.5: Inflation and External Sector Performance during 1957 – 1958

	1957	1958	% Δ
Consumer Price Index (1959 – 60 = 100)			
Overall	91.31	98.47	7.8
Food and Beverage	85.23	94.35	10.7
External Sector			
Export (Million US$)	337.7	298.7	-11.5
Manufacturing (1954–55 =100)	4795.98	1397.87	-70.9
Foreign Exchange Reserves (Million US$)	252	185	-26.6

Data Source: *State Bank of Pakistan (2010)*

Table 1.6: GDP per capita in East and West Pakistan

(in Rupees)

Year	East Pakistan	West Pakistan	Disparity Ratio
1949 – 50	293	342	1.17
1954 – 55	290	354	1.22
1959 – 60	269	355	1.32
1964 – 65	293	426	1.45
1969 – 70	314	504	1.61

Data Source: *Figures from 1949 to 1965 are Stern (1968) Table 1(a). Figure for 1969 – 70 is from Zaidi (2005) Table 6.11.*

Table 1.7: Distribution of Population

(Million)

Year	East Pakistan	West Pakistan	East Pakistan Share (%)
1950	42.25	35.31	54.5
1955	47.7	39.87	54.5
1960	53.58	45.03	54.3
1965	61.3	51.1	54.5

Data Source: *Figures from 1949 to 1965 are Stern (1968) Table 1(a).*

Table 1.8: Relative Position of Trade Balance in East and West Pakistan (1950 – 1965)

(Rs. In Million)

Year	East Pakistan				West Pakistan			
	Export	Import	Surplus/ Deficit	Ratio of Import/ Export	Export	Import	Surplus/ Deficit	Ratio of Import/ Export
1950	628	391	237	62.3	565	930	-365	164.6
1951	1211	515	696	42.5	1342	1184	158	88.2
1952	1087	856	231	78.7	922	1504	-582	163.1
1953	642	407	235	63.4	867	1065	-198	122.8
1954	654	311	343	47.6	641	845	-204	131.8
1955	732	332	400	45.4	491	801	-310	163.1
1956	1041	376	665	36.1	743	982	-239	132.2
1957	909	841	68	92.5	698	1525	-827	218.5
1958	988	748	240	75.7	434	1320	-886	304.1
1959	881	579	302	65.7	444	1036	-592	233.3
1960	1080	682	398	63.1	763	1807	-1044	236.8
1961	1259	1039	220	82.5	540	2181	-1641	403.9
1962	1301	899	402	69.1	543	2243	-1700	413.1
1963	1249	1059	190	84.8	998	2086	-1088	209.0
1964	1224	1499	-275	122.5	1075	2985	-1910	277.7
1965	1268	1726	-458	136.1	1151	3674	-2523	319.2

Data Source: *Figures are from Stern (1968) Table 2(a) & (b).*

Table 1.9: Pattern of Regime Change

Regime Change/Reasoning	Political	Economic	Social	Institutional
Democracy to Autocracy	Yes	Yes	No	Yes
Autocracy to Democracy	Yes	No	Yes	No
Democracy to Autocracy	Yes	Yes	Yes	No
Autocracy to Democracy	Smooth Transition due to Death of President Zia			
Democracy to Autocracy	Yes	Yes	No	Yes
Autocracy to Democracy	Yes	No	Yes	No

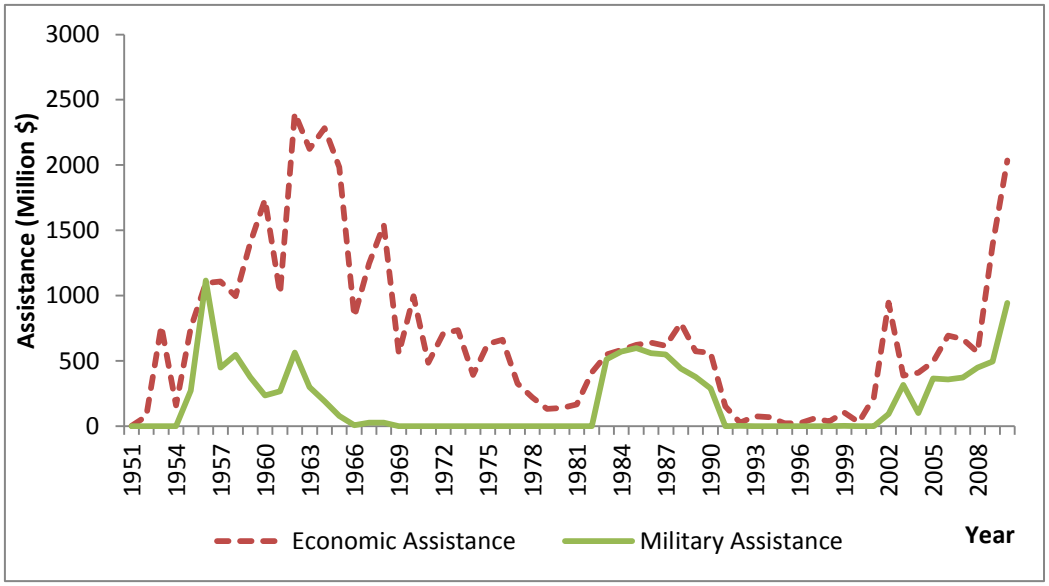
Source: *Author's Compilation*

Figure 1.1: Brief Time Line for Pakistan's Major Political Events

1947	Independence from British Colony
1948	War with India on Kashmir Issue
1956	Promulgation of First Constitution of Pakistan
1958	Regime Change - Military Takeover by General Ayub Khan
1962	Introduction of New Constitution by General Ayub
1965	War with India on Kashmir Issue
1969	General Ayub Handover Charge to General Yahya Khan
1971	War with India on Kashmir Issue and Regime Change – Zulfiqar Ali Bhutto Became President
1973	Introduction of New Constitution by Zulfiqar Ali Bhutto
1977	Regime Change – Military Takeover by General Zial – ul – Haq
1988	General Zia's Death and Fresh Election
1990	President Ghulam Ishaq Khan Dissolve Assemblies – Mian Nawaz Sharif Became Prime Minister
1993	President Ghulam Ishaq Khan Dissolve Assemblies – Benazir Bhutto Became Prime Minister
1996	President Sardar Farooq Ahmed Lagari Dissolve Assemblies – Mian Nawaz Sharif Became Prime Minister
1999	Regime Change – Military Takeover by General Pervez Musharraf
2002	Fresh Election Held – Mir Zafarullah Khan Jamali Became Prime Minister
2008	Fresh Election Held – Syed Yousaf Raza Gailani Became Prime Minister
2013	Fresh Election Held – Mian Nawaz Sharif Became Prime Minister

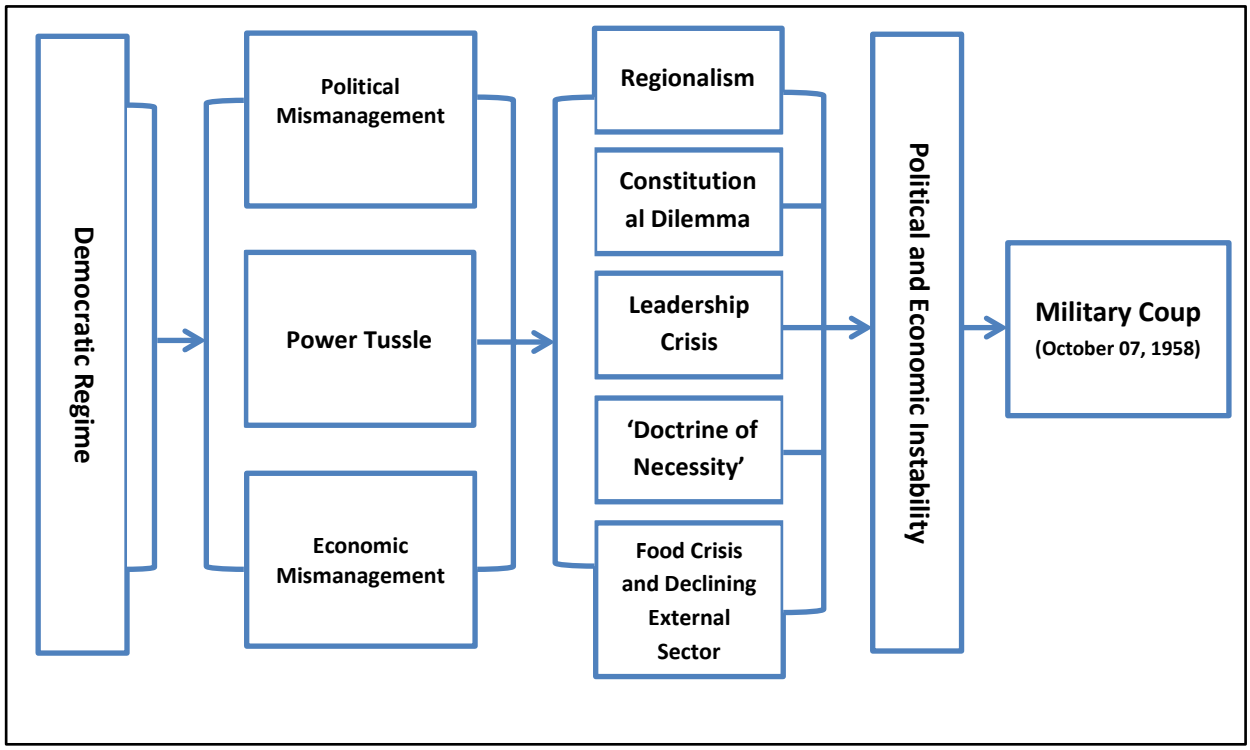
Source: *Author's compilation*

Figure 1.2: Trend of US Assistance to Pakistan



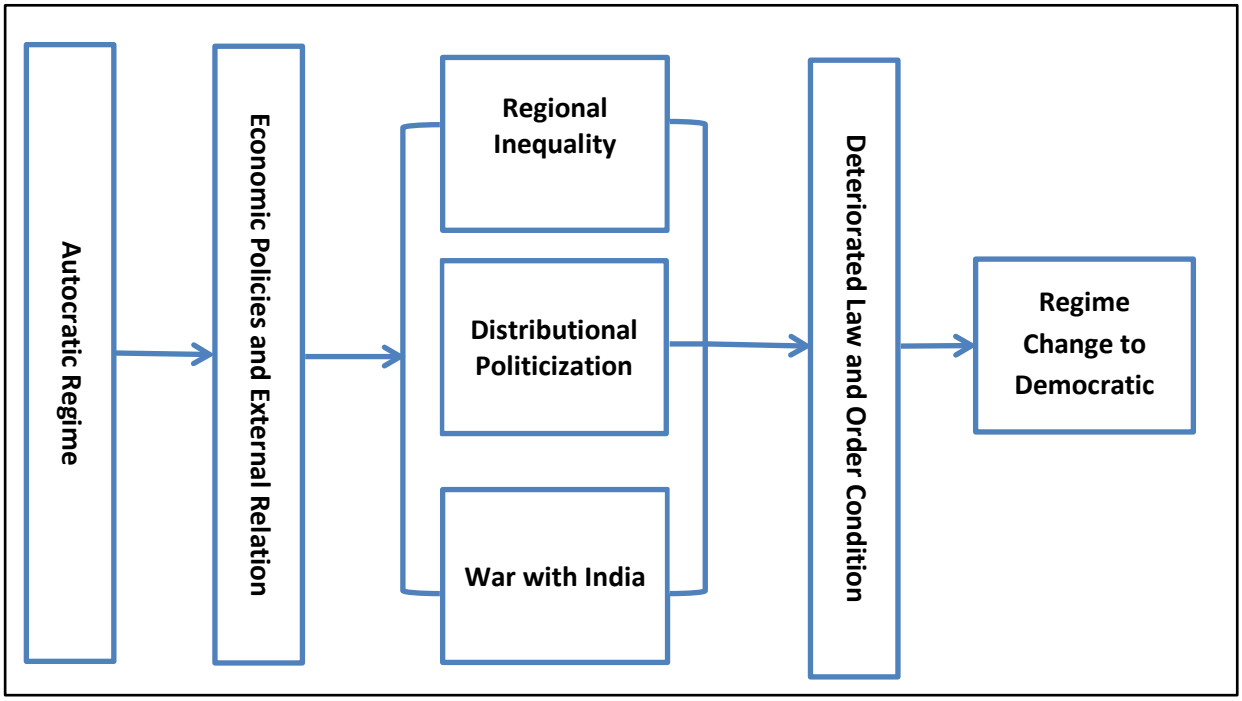
Note: *Figures are inflation-adjusted and presented in 2011 constant US$.*
Source: *US Overseas Loans and Grants – Obligations and Loan Authorizations (Greenbook) (*http://gbk.eads.usaidallnet.gov/) (assessed on 2013/11/17)

Figure 1.3: Factors Influencing the 1st Regime Transition – Democratic to Autocratic



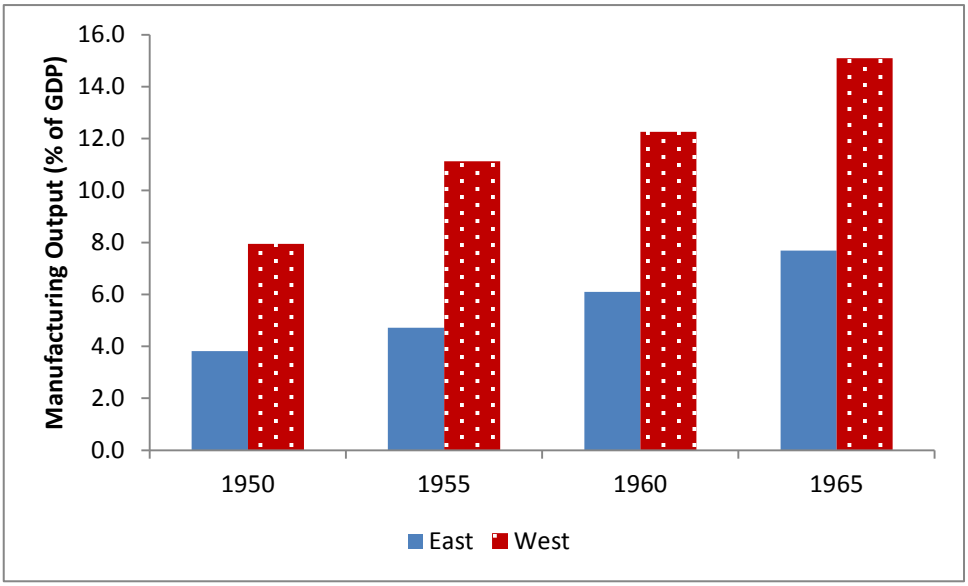
Source: *Author's work*

Figure 1.4: Factors influencing the 2nd Regime Transition – Autocratic to Democratic



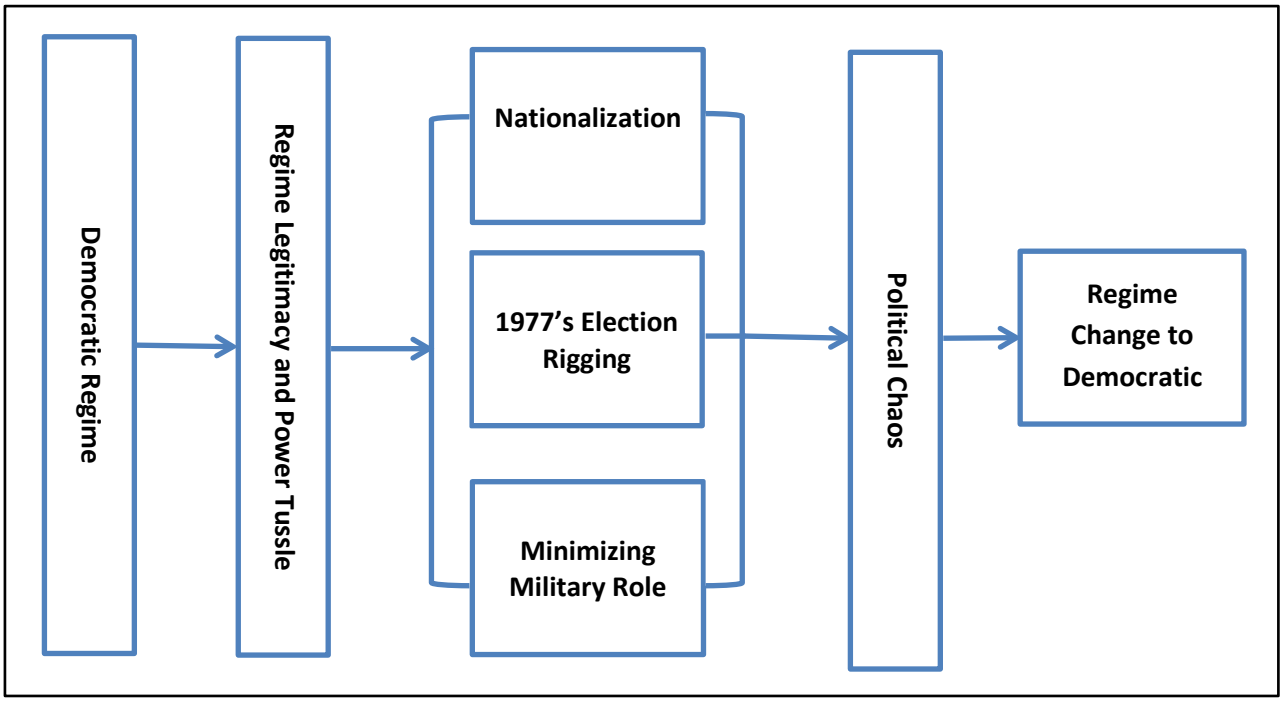
Source: *Author's Work*

Figure 1.5: Share of Manufacturing Output in total GDP



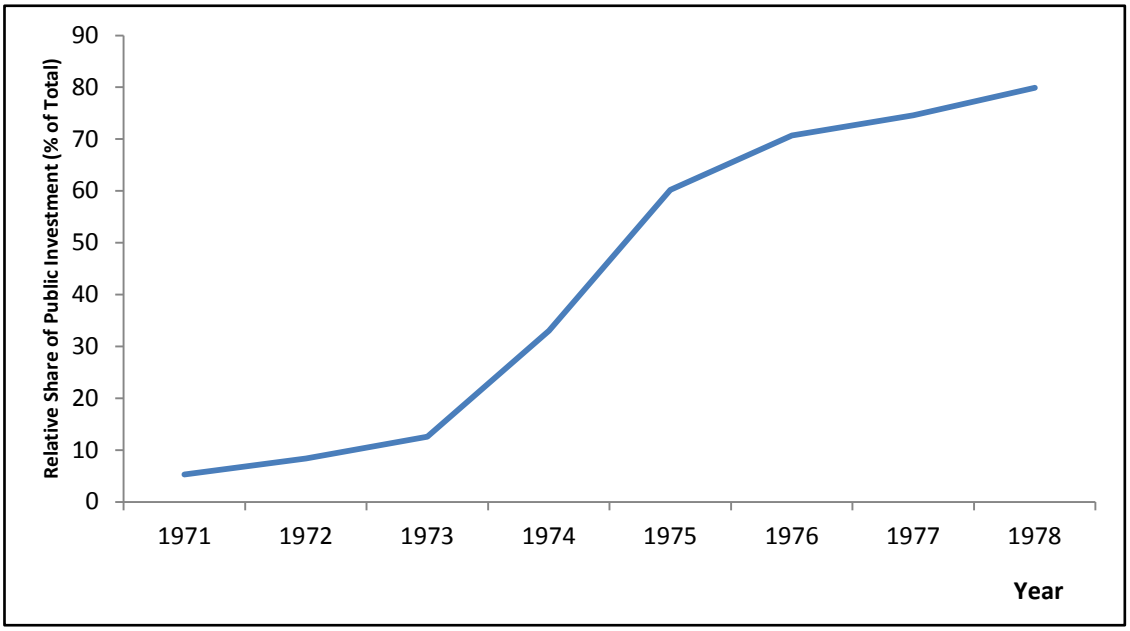
Data Source: *Figures from 1949 to 1965 are Stern (1968) Table 1(b).*

Figure 1.6: Factors influencing the 3rd Regime Transition – Democratic to Autocratic



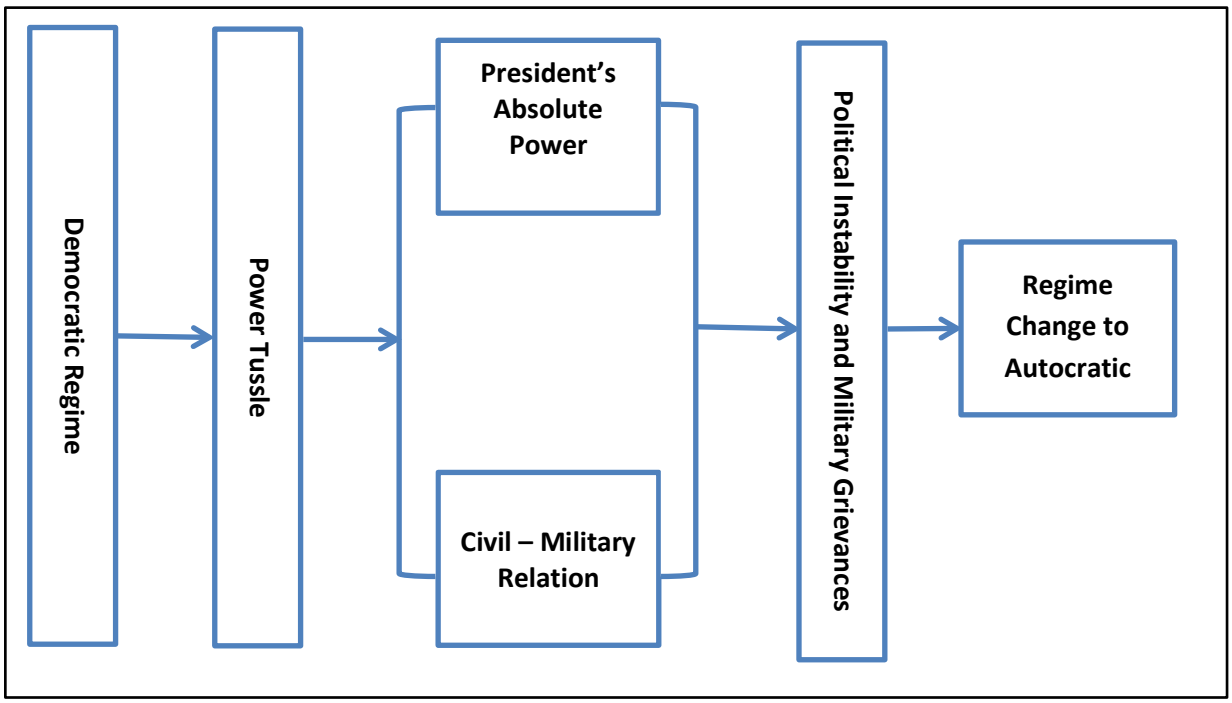
Source: *Author's Work*

Figure 1.7: Relative Share of Public Sector Investment in Large – Scale Manufacturing Sector



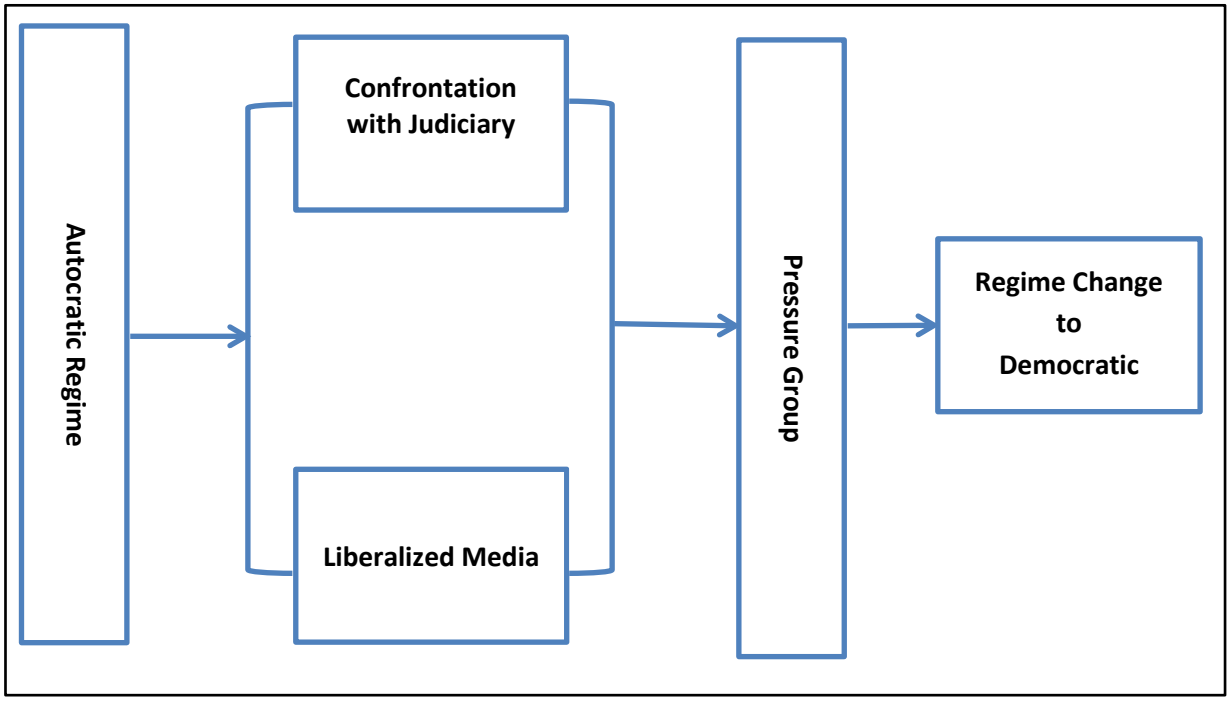
Data Source: *Zaidi (2005) Table 6.16*

Figure 1.8: Factors influencing the 5th Regime Transition – Democratic to Autocratic



Source: *Author's Work*

Figure 1.9: Factors influencing the 6th Regime Change – Autocratic to Democratic



Source: *Author's Work*

Appendix 1-A: Military's Corporate Interest – Details of Businesses

Part I: Pakistan Army

Fauji Foundation	Army Welfare Trust
Commercial Business	**Public Listed Company:**
1) Fully Owned Projects:	*Askari General Insurance Company Limited*
a) Fauji Cereals	
b) Foundation Gas	
c) Overseas Employment Services	
d) Fauji Foundation Experimental and Seed Multiplication Farm	**Public Unlisted Companies:**
1) Associated Companies	*a) MAL Pakistan Ltd*
a) Fauji Fertilizer Company Limited	*b) Askari Securities Ltd*
b) Fauji Fertilizer Bin Qasim Limited	
c) Fauji Cement Company Limited	
d) Fauji Oil Terminal and Distribution Company Limited	**Private Limited Companies:**
e) Fauji Kabirwala Power Company Limited	*a) Askari Aviation Pvt Ltd*
f) Fauji Akbar Portia Marine Terminal (Pvt.) Limited	*b) Askari Guards Pvt Ltd*
g) Fauji Security (Pvt.) Limited	*c) Askari Enterprises Pvt Ltd*
h) Foundation Power Company Daharki Limited	*d) Fauji Security Services Pvt Ltd*
i) Mari Petroleum Company Limited	**Other Business Units:**
j) Pakistan Maroc Phosphate S.A. Morocco	
k) Askari Bank Limited	*a) Askari Real Estate*
i) Askari Cement Company	*b) Askari Woolen Mills*
2) Under Implementation	*c) Askari Shoe Project*
a) Foundation Wind Energy – I	*d) Askari CNG*
b) Foundation Wind Energy – II	*e) Askari Farms and Seeds*
Health Care	*f) Army Welfare Sugar Mills*
1) Urban Hospitals	*g) Blue Lagoon & Army Welfare Mess*
a) Fauji Foundation Hospital, Rawalpindi	
b) Fauji Foundation Hospital, Peshawar	
c) Fauji Foundation Hospital, Lahore	
d) Shaukat Omar Memorial Hospital, Karachi	
2) Semi – Urban Hospitals	
a) Fauji Foundation Hospital, Jhelum	
b) Fauji Foundation Hospital, Kallar Kahar	
c) Fauji Foundation Hospital, Sialkot	
d) Fauji Foundation Hospital, Khanewal	
e) Fauji Foundation Hospital, Faisalabad	
3) Rural Hospitals	
a) Fauji Foundation Hospital, Lachi (Kohat)	
b) Fauji Foundation Hospital, Mansehra	
4) Other Health Care Units	

a) Fauji Foundation Medical Centers *b) Dispensaries* *c) Mobile Dispensaries* *d) Artificial Limb Center* *e) Nursing School* *f) Medical College* **Education and Training Centers** 1) Vocational Training Centers 2) Technical Training Centers 3) Model Schools 4) Secondary High Schools 5) Foundation University 6) Institutes *a) Institute of Engineering and Management Science* *b) Foundation University Medical College* *c) Foundation University College of Arts and Science*	

Source: *Fauji Foundation (http://www.fauji.org.pk) and Army Welfare Trust (http://www.awt.com.pk) (Accessed on October 10, 2014)*

Part II: Pakistan Air Force and Pakistan Navy

Shaheen Foundation	Bahria Foundation
Aviation *a) Shaheen Airport Services* *b) SAPS Aviation College* *c) SAPS International Trip Planning Services* *d) Air Eagle Aviation Academy* *e) Air Eagle* **Real Estate** *a) Shaheen Complex Lahore* *b) Shaheen Complex Karachi* *c) Shaheen Housing Scheme Projects* *d) Educational Services* *e) Fazia Education System Schools* **Information Technology** *a) Ensign Communiqué* *b) Infospan Inc.* **Trades and Services** *a) Shaheen Aero Traders* *b) Shaheen Insurance* *c) Shaheen Knitwear* *d) Shaheen Medical Services* *e) Shaheen Fuel Filling Stations*	**Trade and Services** *a) Falah Trading Agency* *b) Bahria Logistic Cell* *c) Maritime Services* *d) Bahria Container Terminal* *e) Bahria Security System and Services* *f) Bahria Travels* *g) Bahria Recruiting Agency* *h) Bahria Filling Station* *i) Bahria Pharmacy* **Industrial Units** *Bahria Paints* **Engineering Services** *Boat Building and Engineering Services* **Real Estate** *a) Bahria Complex – I* *b) Bahria Complex – II* *c) Bahria Complex – III* *d) Bahria Developers and Constructions* *e) Bahria Enterprise System and Technologies* **Agriculture** *Cattle Farming*

Source: *Shaheen Foundation (http://www.shaheenfoundation.com);*
Bahria Foundation (http://www.bahriafoundation.com) (Accessed October 18, 2014)

Chapter 2

Long-Run Sources of Economic Growth: A Regime-wise Analysis for Pakistan Economy

2.1. Introduction

What determines long-run economic growth – factor accumulation or productivity? This is one of the fundamental questions investigated since Solow's (1957) classic work on technical change. The growth literature shows divergent views. A large number of researchers believe that factor accumulation is a key driver for economic growth (see Mankiw et al, 1992; World Bank, 1993; Barro et al, 1995; Mankiw, 1995; World Bank, 1995; Young, 1995; World Bank, 2000). Young (1995), for instance, argues that the fundamental source of growth behind the extraordinary Asian Tiger[40] performance was accumulation of factors, not productivity. In contrast, a substantial amount of research shows that factor accumulation is not the main driver for economic growth (see Romer, 1990; Grossman and Helpman, 1991; King and Levine, 1994; Klenow and Rodriguez-Clare, 1997; Aghion and Howitt, 1998; Easterly, 1999; Collier et al, 2000; Easterly and Levine, 2001). Hall and Jones (1999) show that the difference in per worker output among countries is partly explained by difference in factor inputs. He argues that a large chunk of difference in per worker output between countries is explained by differences in productivity. Giving this debate, we intend to determine long-run sources of growth for Pakistan economy.

Pakistan is an interesting case study because of three main reasons. First, Pakistan's economic growth[41] remained modest during the period under study. Average output per capita growth fluctuated around the mean of 2.2 percent. However, the patterns of

[40] Singapore, Taiwan, Hong Kong and South Korea
[41] As determined by log difference of real GDP per capita.

growth differ in various political regimes. For example, growth under the autocratic regime, on average, is higher than under a democratic regime (see Figure 2.1). Second, in early 1960s, Pakistan economy was growing at an average per capita growth of 4 percent. It was growing with other East Asian economies and considered as a miracle economy (Husain, 2009). However, over the time we have observed that Pakistan economy remained underdeveloped and majority of East Asian economies have changed their economic status. Finally, Pakistan economy experienced frequent change in its political regimes. In its total life of 67 years, Pakistan spent 32 years in autocratic regimes. The growing debate over fundamental sources of growth and uneven growth pattern for Pakistan motivate us to analyze what determine growth pattern under different regimes. More specifically, using the Pakistan case, we aim to: (i) determine the main driver(s) for economic growth; (ii) examine the effect of change in political regime on patterns of economic growth; and (iii) estimate the determinants of total factor productivity.

We determine the source of growth by regime. Here the term 'regime' refers to a political regime which may either be democratic or autocratic. We consider a regime is democratic if the chief executive assumes power through election and open competition. If the chief executive takes the position by forcefully seizure of political power then it is considered an autocratic regime. An autocratic regime may take different forms, but for the analysis of this study, we refer it to an autocratic regime as a military[42] regime which assumes political power in a coup d'état.

Following Solow (1957), Griliches & Jorgenson (1967), Barro (1999) and Bosworth & Collins (2008), we use a growth accounting framework in decomposing Pakistan's

[42] The term 'military' is general which includes army, navy and air force but for us the term 'military' means Pakistan Army only.

economic growth into its components by regime. We also develop an econometric model and estimate the determinants of productivity level and its growth. Understanding the right source of growth is important for two major reasons. First, if the main driver of growth is factor accumulation, then it is well established that the economy cannot grow forever (Solow, 1957, Lucas, 1988); but if the prime source of growth is productivity, then a country can sustain and improve its growth. Second, policy implication varies from one source to another. For instance, if the fundamental source of growth appears to be a factor accumulation, then the key policy implication may be generation of additional funds for investment in productivity enhancing goods[43] to sustain growth.

Similarly, analysis of source of growth by regime is important because policy conditions for growth may differ by regime. For example, provisions of basic public goods such as national defense services, health facilities, schooling, utilities, road networks etc. to the electorate are the prime concerns of a democratic regime. Private property rights are more secure under a democratic regime. Secure property rights induce investment in physical capital as well as technology and research and development (R&D). An autocratic regime is generally unaccountable to the citizenry, which may motivate an autocrat to divert scarce resources for personal gain. Similarly, the higher risk of expropriation under an autocratic regime reduces incentives to invest in physical capital, technology and R&D.

Our main contributions to the literature are threefold: first, while a lot of studies have been done on the democracy-growth nexus (see Sirowy and Inkeles, 1991; Alesina and Rodrik, 1994; Alesina et al, 1996; Rodrik, 2000; Persson and Tabellini, 2006; and

[43] Such as investment in R&D, technology, human capital etc

Doucouliagos and Ulubaşoğlu, 2008), to the best of our knowledge, there has been no study which develops an explicit linkages between regime, productivity and growth. Using the Pakistan case, we attempt to establish explicit linkages between regime and economic growth through productivity. Thus, our research sheds light on how regime policy changes the composition of growth.

Our second contribution is decomposition of Pakistan's economic growth by incorporating human capital as an additional input. Data constraints forced previous studies to decompose growth by considering only capital and labor inputs (see Burney, 1986; Khan, 2006; Hussain, 2009). Following Hall and Jones (1999), we develop an index of human capital on the basis of average years of schooling. Development of human capital series is our third contribution towards Pakistan's growth literature.

Using growth accounting framework, we found that in case of Pakistan, the long-run sources of economic growth are mixed. In early years, the main source of output growth per worker was productivity. However, in recent years, the main driver of growth is human capital. One of the reasons why Pakistan fails to change its economic status is that Pakistan ignored investment in physical and human capital accumulations in early years. Econometric analysis showed that the main determinants of total factor productivity are investment in health facility, increase in life expectancy, government spending on development projects and other government general spending, foreign assistance and export of goods and services. Our main conclusion is that in the short-run, political regime matters in determining the level and growth of total factor productivity. However, in the long-run, there is no systematic difference in determining total factor productivity under various political regimes.

The paper progresses as follows: the next Section analyzes very briefly Pakistan's political structure. Section 2.3 establishes linkages between a regime and components of growth. The theoretical framework is explained in Section 2.4, followed by variable formulation and data sources in Section 2.5. Using a growth accounting framework, regime-wise productivity analysis is shown in Section 2.6. Econometric methodology and empirical results are respectively explained in Section 2.7 and 2.8. The final Section concludes the discussion.

2.2. Political Structure of Pakistan

Pakistan became an independent country on August 14, 1947. At that time, Pakistan comprised two Wings: the East Wing (present Bangladesh) and the West Wing (the present Pakistan). Pakistan lost its East Wing in December 1971 mainly because of policy negligence.

In the early years of independence, Pakistan was politically unstable because of a lack of political leadership,[44] migrant influx, political and economic mismanagement and lower literacy and educational levels, coupled with a strong bureaucracy and military. A power struggle between political parties and the bureaucracy supported by the military led to the first military coup d'état in October 1958. This opened the way for a subsequent coup d'état. Consequently, Pakistan has experienced two more military coups d'état, one in July 1977 and another in October 1999. In its 67 years, Pakistan has spent 32 years under military control (see Table 2.1).

On the democratic front, Pakistan has also experienced frequent changes in political government. The 1990s were the longest democratic period; but in this time, the

[44] Pakistan's founder passed away in September 1948; the first Prime Minister of Pakistan was assassinated in 1951.

regime changed four times, mainly because of economic mismanagement and corruption.

2.3. Conceptual Framework

We argue that regime matters for determination of economic growth. In this section, we explain the possible channels by which regime can affect productivity and subsequent economic growth. Figure 2.2 shows potential linkages between political regime and economic growth. The inner rectangles represent positive association between political regimes and economic growth whereas the outer circles show negative relation between them.

The first channel that may affect productivity is a democratic regime's commitments. In a democratic regime, the government is accountable to the electorate. The regime generally makes commitments for the betterment of society. 'Credible' commitments such as securing private property rights reduce uncertainty and encourage investment. Profit-maximizing individuals and firms have an incentive to allocate some portion of their investment in training employees, R&D, and developing or importing new technology. These additional investments in technology and R&D can improve productivity and economic growth (see inner rectangles of Figure 2.2).

Legitimacy of the regime is another channel which may increase productivity. An autocratic regime does not generally have the support of the masses, so it needs to legitimize itself. One option that an autocrat may use is provision of a conducive investment environment. The regime may secure property rights or invest in public goods. Securing property rights or provision of basic public goods may directly influence productivity and economic growth.

In some circumstances a regime may harm productivity. For instance, in a multi-party political system, a government may be formed in coalition, in which case it is highly likely that a substantial amount of scarce resources may be diverted to satisfy multiple demands of coalition partners. Hence, resource divergence may boost current government expenditure and reduce resources for investment in public goods (see outer circles of Figure 2.2). Consequently, the reduction in investment may reduce productivity and economic growth.

Another channel by which a regime may affect productivity involves people's rights. In a democratic regime, people are free to stand up for their rights. This encourages the formation of unions, particularly labor unions which fight for higher wages and conditions. Acceding to union demands increases production costs and reduces profit. Lower profits may induce firms to cut investment in employees training or R&D, in turn reducing productivity and economic growth.

An autocratic regime may lower incentives for productivity-enhancing investment for at least two reasons. First, in an autocratic regime there are increased risks of expropriation that may lower the incentive for investment in accumulating physical and human capital. Lower investment in technology-embodied capital or training may reduce output-generating capacity and hence productivity.

The second reason may be related to regime style. Autocrats are not generally accountable; they may devote a nation's scarce resources for personal gain. Higher personal gains may foster current consumption relative to future consumption, which may lower the nation's future productive capacity. Lower productivity and economic growth may be the result.

2.4. Methodology

The growth-accounting framework essentially decomposes output growth into factor inputs and productivity. Solow's (1957) seminal paper and Griliches and Jorgenson's (1967) theoretical and empirical work are useful guidelines for decomposing growth into its components. We use a growth-accounting framework to decompose Pakistan's economic growth. In this section, we explain the theoretical framework for decomposing growth of output into its components.

2.4.1. Theoretical Framework

Broadly speaking, the literature shows two alternative approaches in analysis of productivity growth: (i) a growth-accounting framework and (ii) a direct econometric approach. The first is based on assumptions of constant returns to scale and competitive markets. These assumptions help to identify production parameters in estimating relative contributions of factor inputs and productivity to total output. Capital share and labor compensation in total output are used as weights in determining relative contributions. In the second approach, we do not need assumptions about the market, but we explore alternative functional forms for a given country's production function. We use both approaches for determination and analysis of Pakistan's productivity and growth. Details of each approach are explained below.

2.4.1.1. Growth Accounting Framework – A Case of General Production Function

Suppose aggregate output Y can be produced by using two inputs – capital K and skilled labor H. The basic aggregate production function over time can be represented:

$$Y_t = F(K_t, H_t)$$

If H ≡ AhL then,

$$Y_t = F(K_t, (AhL)_t)$$

Here *A* is labor-augmenting technology or simply Total Factor Productivity (TFP), *h* is average level of human capital associated with labor force, *L* is employed labor force and *t* is time index. Let *y* represent output per worker and *k* represent capital per worker; the above aggregate production function can be represented per worker as follows:

$$y_t = F(k_t, (Ah)_t) \tag{1}$$

Differentiating Equation (1) with respect to time and simplifying, we get

$$\frac{\dot{y}}{y} = \frac{\dot{A}}{A} + \frac{Af_k k}{y}\frac{\dot{k}}{k} + \frac{Af_h h}{y}\frac{\dot{h}}{h}$$

Here, Af_k and Af_h represent marginal products of physical and human capital respectively. If a market is competitive, which we assume, these marginal products are rental rate and wage rate respectively. The terms $\left(\frac{Af_k K}{Y}\right)$ and $\left(\frac{Af_h H}{Y}\right)$ represent compensation share of physical capital (φ) and human capital (ω) in total output. Under constant returns to scale assumption, the compensation share of human capital is one minus the compensation share of physical capital (i.e. $\omega = 1 - \varphi$). Thus the growth rate of output per worker $\left(\frac{\dot{y}}{y}\right)$ can be decomposed into growth rate of productivity $\left(\frac{\dot{A}}{A}\right)$ and factor inputs growth $\left(\frac{\dot{k}}{k} \text{ and } \frac{\dot{h}}{h}\right)$ as follows:

$$\frac{\dot{y}}{y} = \frac{\dot{A}}{A} + \varphi\,\frac{\dot{k}}{k} + (1-\varphi)\,\frac{\dot{h}}{h}$$

$$g_y = g_A + \varphi\, g_k + (1-\varphi)\, g_h \tag{2}$$

Here, g_y is growth rate of output per worker, g_k and g_h are growth rates of physical and human capital respectively. Equation (2) implies that growth of output per worker is nothing but a sum of productivity growth and weighted sum of factor inputs growth. Under constant returns to scale assumption, these weights are share of capital and labor compensation in total output. From Equation (2) we can also determine productivity growth, which is simply the difference between growth of output per worker and growth of inputs per worker:

$$g_A = g_y - [\varphi g_k + (1-\varphi) g_h] \quad (3)$$

Equation (3) implies that the total factor productivity growth is the residual of output per worker growth and weighted sum of factor inputs growth. The prime advantage of this growth decomposition exercise is that we do not need to assume any explicit form for production function. It is valid for any form of production function. However, for empirical simplicity, researchers [45] generally assume Cobb-Douglas Production Function. The following discussion explains how output per worker growth can be decomposed into its components under the Cobb-Douglas Production Function.

2.4.1.2. Growth Accounting Framework – A Case of Cobb-Douglas Production Function

Assuming constant-return-to-scale and Cobb-Douglas production function, the aggregate production function can explicitly be written as:

$$Y_t = K_t^{\varphi} (AhL)_t^{1-\varphi} \quad (4)$$

Where A is labor-augmenting technology, h is the average level of human capital associated with a labor force, φ and $1-\varphi$ are output elasticities with respect to physical capital and skilled labor inputs respectively. The alternative interpretations of

[45] For example: Hall and Jones (1999), Easterly and Levine (2001), Bosworth and Collin (2008) etc.

φ and $1-\varphi$ are the share of capital and labor compensation in total output respectively. Per worker, the Equation (4) becomes:

$$y_t = k_t^{\varphi}(Ah)_t^{1-\varphi}$$

$$y_t = A_t k_t^{\varphi} h_t^{1-\varphi} \tag{5}$$

Here, *y* and *k* represent output per worker and capital per worker respectively, and *A* is equal to $A_t^{1-\varphi}$. Differentiating Equation (5) with respect to time and simplifying, we get:

$$\frac{\dot{y}}{y} = \frac{\dot{A}}{A} + \varphi\frac{\dot{k}}{k} + (1-\varphi)\frac{\dot{h}}{h}$$

or

$$g_y = g_A + \varphi g_k + (1-\varphi)g_h$$

The total factor productivity growth is the residual of growth of output per worker and growth of factor inputs:

$$g_A = g_y - [\varphi g_k + (1-\varphi)g_h] \tag{6}$$

Comparing Equation (6) with Equation (3) we get the same result. Thus, we can safely say that assuming Cobb-Douglas production function for empirical simplicity will not harm our analysis.

2.5. Variable Formulation and Data Sources

We use over six decades of data, from 1950 to 2010. Our main data sources are Feenstra, Inklaar and Timmer (2013) and the State Bank of Pakistan (2010). The next section explains details of variable construction and trend.

2.5.1. Output Per Worker

Real Gross Domestic Product (GDP) is used as a measure for output. The data for this variable is obtained from Feenstra, Inklaar and Timmer (2013). It is measured at constant 2005 national prices and denoted in US dollars. Data on output per worker is then derived by dividing the real GDP over the employed labor force (see Section 2.5.3 for further detail on this variable).

Table 2.2 reports Pakistan's real GDP growth trends compared to other countries in the region. Panel A contains data of real GDP growth for Pakistan-bordering countries; Panel B has the same data for various regions of the world. Over more than six decades Pakistan has had average output growth of about 5%; while this growth was volatile, it remained above 4% in the 1960s, 1980s and 2000s. Pakistan's growth performance was better than its neighboring countries in the 1960s to 1980s, but it lost its comparative ranking in the next two decades. Regionally, in the 1960s, Pakistan's real output grew 3% more than South Asia as a whole; during 1960–1990 it also performed better than other regions of the world except the Middle East and North Africa. In the 1980s, Pakistan's economic performance was more or less at par with East Asian economies but it became only half theirs in the 2000s.

Table 2.3 explains output trends per worker. Pakistan's output per worker has fluctuated around the mean growth of 2.2% over the last six decades. The 1960s seem better and 1990s worse in terms of growth of output per worker. Pakistan's growth was quite low compared to neighboring countries in the first and last two decades. Iran's growth was tremendous in the first two decades but it totally lost its momentum thereafter. Bangladesh, India and China have been growing continuously since 1980.

2.5.2. Capital Stock

The main challenge in growth accounting is the estimation of capital stock series, because this series is generally unavailable. Fortunately, Feenstra, Inklaar and Timmer's (2013) estimation of this series include Pakistan. We use their capital stock series to estimate Pakistan's TFP.

In measuring capital stock, Feenstra, Inklaar and Timmer's *FIT approach* used two fundamental differences as compared to the standard approach[46] in the literature. In the standard approach, investment is treated as single homogenous asset using a single rate of depreciation; under the FIT approach, asset-wise investment is considered and depreciation rates vary accordingly over asset and over time. The FIT approach divides total investment into six asset categories: structures (residential/non-residential), transport equipment, computers, communications equipment, software and other machinery/assets.

The second major difference concerns assumptions in estimating the initial level of capital stock. With a steady-state assumption, the standard approach estimates the initial level of capital stock by the following formula:

$$K_0 = \frac{I_0}{g_I + \delta}$$

Here, K_0 and I_0 are initial levels of capital stock and investment respectively; g_I is the (steady-state) growth rate of investment, and δ is the depreciation rate. This requires a very strong assumption about the first year for which investment data is available. It assumed that for the first available year, a country is at a steady-state level, and the steady-state growth rate of investment can be easily identified. For computation of

[46] In the literature, Caselli (2005) is considered the standard approach.

steady-state growth rate of investment, different years are used in the literature. For instance, Harberger (1978) uses the first three available years' average, and Caselli (2005) uses the first ten to twenty years to estimate the steady-state investment growth rate. Nehru and Dhareshwar (1993) explain various alternative methods for estimating the initial level of capital stock.

The FIT approach estimates the initial level of capital stock on the basis of starting capital/output ratio. The following relationship is used under the FIT approach for estimating the initial level of capital stock:

$$\mathrm{K}_0 = Y_0 \times k$$

Here, K_0 and Y_0 are respectively the initial levels of capital stock and GDP; k is the assumed capital/output ratio. On the basis of cross–country regression analysis, the FIT approach concludes that the initial capital output ratio for non-ICT (information and communication technology) assets is 2.7 (the median value for the sample countries); for structures (2.2); for transport equipment (0.1); and for other machinery and assets (0.3) is sufficient. However, for ICT assets, the initial capital output ratio is assumed to be zero (for further detail, see Inklaar and Timmer 2013, 7 – 11).

Given the initial capital stock for asset *i* and time period *t*, the FIT approach estimates the series of capital stock for asset *i* for a given country by using perpetual inventory method, as follows:

$$\mathrm{K}_{it} = \mathrm{I}_{it} + (1 - \delta_{it})\, \mathrm{K}_{it-1}$$

Where δ_{it} is the depreciation rate for assets *i* at time *t*. To estimate the current value of capital stock, the FIT approach multiplies the capital stock for asset *i* with its

relevant asset price (P_{it}). For aggregate capital stock at constant price, the FIT approach uses following formula:

$$\Delta \text{logRK}_t = \sum_i \bar{\theta}_{it} \, \Delta log K_{it} \tag{7}$$

Here,

$$\bar{\theta}_{it} = \frac{1}{2}(\theta_{it} + \theta_{it-1}) \text{ and } \theta_{it} = P_{it}K_{it} / \sum_i P_{it}K_{it}$$

Equation (7) estimates the growth rate of aggregate capital stock at time *t* and the level is defined as the total capital stock at 2005 prices. By this process, the FIT approach estimates the series of real capital stock for Pakistan from 1950 to 2010.

As Equation (2) above explains, change in output mainly involves two factors: factor input change or productivity change. The former comprises labor and capital inputs. The change in capital input is generally considered as change in quantity not quality, because quality change is included in productivity.

Capital output ratios for Pakistan and its neighboring countries are given in Table 2.4, where it is evident that capital to output ratio for Pakistan fell over the first three decades, remained stagnant during the 1980s and 1990s, and start increasing in the 2000s. For India, this ratio remained stagnant at around 1.5 in the first three decades, then increased to 2.2. For China and Bangladesh, the ratio showed an increasing trend. Bangladesh started its journey with a relatively low ratio of 1.2 in the 1960s but showed the relatively high ratio of 2.9 in the 2000s. Similarly, China started from a ratio of 1.8 and showed a ratio of 3.3 in the 2000s. Iran showed an inverted u-shaped trend, increasing from 2.9 in the 1960s to a peak of 10.3 in the 1980s, then declining to 3.2 in the 2000s.

2.5.3. Labor Input

Labor input data is obtained from Heston, Summers and Aten (2012); actually, data on this variable is not directly available, but is computed from the series of real GDP per worker. Once we have data on output and output per worker, it is easy to obtain labor input series by simply manipulating the following definitional equation:

$$\text{Output per worker} \equiv \frac{Output}{Employed\ Labor\ Force}$$

This implies that

$$\text{Employed Labor Force} = \frac{Output}{Output\ per\ worker}$$

Ideally, the unit of employed labor force would be hours per worker. Unfortunately, we do not have this data, so we use number of workers employed instead of hours per worker as labor input.

As stated above, output change has mainly occurred because of either factor inputs change or productivity change. Factor inputs comprise labor input and capital input. Changes in labor input can be observed in quantity (change in number of labor working hours or change in number of labor employed) or quality (change in education, skills, sex or age composition). Because of limited availability of relevant data, our productivity estimates account only for changes in number of labor employed and changes in education. These imply that our estimate for productivity is upwardly biased.

Table 2.5 reports growth of employed labor force. Pakistan's employed labor force grew on average 2.5% over the more than six decades. In the 1950s, average

employment growth was just 1%, which may reflect lower industrial and agricultural bases in the early years of independence. From 1980 onwards, it grew more than 3%. Regionally, Pakistan's average employment growth is higher than in neighboring countries except for Iran.

India's labor employment showed an inverted u-shape growth, with the average of around 2% per annum: from 1.3% in the 1950s, it reached a maximum of 2.2% in the 1980s and then declined. In the 2000s, it grew at an average of 1.8% per annum. Bangladesh's labor force fluctuates around a mean growth of 2.3%, almost equal to Pakistan's average. China recorded the lowest average growth of employed labor force in the region. It grew on average at 1.7% a year in 1951-2010. Surprisingly, in recent decades, China's average growth has been under 0.5%.

Table 2.6 compares Pakistan's labor force participation rate to that of neighboring countries. Over the last three decades, Pakistan's labor force participation rate has dropped by 5%, from 51% in 1981 to 46% in 2011. The same decline has been observed in India (6%) and Iran (3%). Bangladesh and China showed an increasing trend, substantial for Bangladesh at around 11%, while for China a marginal rate of around 2%. Interestingly, the female participation rate rose dramatically in Pakistan and Bangladesh. Pakistan's female participation rate increased from 7% to 22%, and for Bangladesh it was even more, from 5% to 29%.

Table 2.7 explains Pakistan's distribution of employed labor force by industry. In 1965, around 60% of the labor force was employed in the agriculture sector, declining to 42% in 2002. The manufacturing employment share remained at under 15% through the period under consideration. A higher employment share in the agriculture sector vs a low share in the modern sector (manufacturing) implies that people

continued to receive low wages. The services sector employment share showed an increasing trend, from 23% in 1965 to 38% in 2002. The distribution of employment seemed to reverse in 2009. The employment share of the service and manufacturing sectors fell 4%, and the change was absorbed by the agriculture and construction sectors.

2.5.4. Human Capital

Data on human capital for Pakistan economy is not readily available. Following Hall and Jones (1999) we compute data on human capital on a basis of average years of schooling for the 15-64 years age group. It is assumed that labor L is homogenous across Pakistan and each unit of labor has s years of schooling. The total human capital H_t is then estimated as follows:

$$\mathrm{H}_t = e^{\emptyset(s_t)} L_t$$

or in per worker terms:

$$\mathrm{h}_t = e^{\emptyset(s_t)}$$

Where h_t is human capital per worker and $\emptyset(s_t)$ is the return to schooling schedule that can be estimated by a Mincerian wage regression. Hall and Jones (1999), following Psacharopoulos (1994), assumed a piecewise linear schedule for $\emptyset(s_t)$ such that for the first four years of schooling the return is 13.4%; for the next four years, it is 10.1%; and return to schooling for beyond 8 years of schooling is estimated as 6.8%. Data on average years of schooling is obtained from Barro and Lee (2013), available for 1950-2010 over the 5 years of interval. For a complete time series, data is interpolated within the interval.

It is worth mentioning that the series of human capital estimated from *'average years of schooling'* only is understated and does not reflect the *true* human capital for several reasons. First, it accounts only for skills acquired in formal schooling and totally ignores skills acquired through other sources like informal education or private tutoring. Second, it does not account for skills acquired through experience or on-the-job training. Third, the procedure does not take into account the quality of education. Finally, it fails to account for the difference of schooling systems across region and over time. For instance, Pakistan has three educational systems: the British system, a conventional system (divided into English medium and Urdu medium) and the *Maddarasa* (religious school). Nonetheless, the literature shows that an average year of schooling is a good proxy for human capital.

Table 2.8 shows accumulation of human capital by Pakistan and neighboring countries. Panel A reports average years of schooling; Panel B reports growth trends for human capital. In 1950 the average schooling in Pakistan was about one year. Up to 1990, the average working population had no primary schooling. In 2010, Pakistan by-passed the threshold of primary schooling and the average schooling became 5.5 years, about the same as Bangladesh and India, better than Afghanistan but poor compared to Iran and China. Iran's average schooling was quite low in 1950, improved in 1990 and become good in 2010.

In growth of human capital, Pakistan's speed of accumulation was under 1% in the earlier three decades, and accelerated in the 1990s to 1.7% in the 2000s (see Table 2.9). Compared to neighboring countries, in the 1950s Pakistan's human capital growth was similar to neighboring countries (except China), and in the 2000s, was better than that of its neighbors.

2.5.5. Production Parameters

The exercise for decomposition of growth of output into factor inputs and productivity is sensitive to output elasticity with respect to physical capital φ and labor inputs $1-\varphi$. This elasticity also represents the relative share of capital and labor compensation in total output. Equation (3) uses these shares as a weight in determining the relative contribution of factor inputs in generating outputs. It is a very useful exercise to determine the relative share of labor and capital in the Pakistan economy; however, the unavailability of relevant data restrained us in such an exercise for Pakistan. Bernanke and Gürkaynak (2002), with a sample of 53 countries, show that the average share of capital is equal to one-third. A standard approach in the growth literature is to assume the value of φ as one-third; Feenstra, Inklaar and Timmer (2013) do so for India. As the Indian economy is close to Pakistan's it is not invalid to assume Pakistan's capital share as one-third; this study therefore uses one-third as a value of capital share φ.

2.6. Measuring Productivity – A Regime-wise Analysis

The estimation of regime-wise output growth and output per worker growth is given in Table 2.10. Average output growth fluctuated around 5% per annum, which is remarkable. Since 1951, Pakistan has maintained an output growth of around 3% under all regimes; growth under autocratic regimes was higher than under other regimes. However, the contribution of labor growth in generating output growth is 50%, which made output per worker grow at 2.2% from 1951 to 2010.

Under the first democratic regime (1951-1957), output grew around 3% (see Table 2.10). These were the years when Pakistan started to build its economic and political

bases. Then, Pakistan's was predominantly an agrarian economy with a very small industrial base, a small service sector and almost no infrastructure. The Korean War enabled Pakistan's mercantilist group to invest in industry under close bureaucratic supervision. Import substitution was the main strategy for this regime, and Pakistan's average growth rate was 3%. The employed labor force grew at 1% and output per worker grew at around 2%.

In Pakistan's economic history, the first autocratic regime (1958-1971) is considered as the Golden Era of Economic Development. Output grew at an average 5.6% per annum. This phenomenal growth was backed by a green revolution, industrialization, trade liberalization and foreign aid. Not surprisingly, the higher output growth also boosted employment, which grew at 2% a year. Around 40% growth in output comes from labor growth.

The average output growth under the second democratic regime (1972-1977) fell 2%, from about 6% to 4%. This may be attributed to the change in the economic environment and policies adopted by this democratic regime. The major change during this regime was separation of the East Wing (now Bangladesh). Before this, half of the output was marketed to East Pakistan and around one-fifth of all goods came from there. The separation involved the loss of a major market, which had to be compensated with the introduction of new markets.

Other unfortunate factors beyond the control of this regime were the 1973 oil price shock, a world recession, failure of cotton crops and a flood which was the worst in recorded history. The new democratic government also made dramatic policy changes which had positive as well as negative effects on output growth. The major policy changes were nationalization of basic industries and financial institutions, land and

labor market reforms, public investment in heavy industry, devaluation of the Pakistani rupee, rises in agricultural goods' prices and the abolishment of the Export Bonus Scheme which was key to the 1960s output growth.[47] The second democratic government was more labor-oriented, and employment growth was higher under this regime than under the two earlier regimes.

Output growth under the second autocratic regime (1978-1988) was remarkable. The 6.5% annual growth was Pakistan's highest ever. The main reason for this extraordinary growth was the favorable external environment, despite some considerable policy changes. The favorable external factors were twofold: (i) increased foreign aid, mainly due to the Soviet invasion of Afghanistan; and (ii) remittances from abroad due to the previous democratic government's good overseas employment policies. Major policy changes included corporatization of state-owned-enterprises and deregulation of business activities, reviving private sector confidence; introduction of an Islamic banking system; trade liberalization; and increased public investment in social and economic infrastructure. Employment grew by around 3% per annum and output per worker grew at 3.6%.

The third democratic regime (1989-1999) was politically unstable, experiencing four changes of government in the Era of Structural Adjustment. Average output growth was 4%. Major policy options under this regime were privatization; liberalization; deregulation; openness; private sector development; and improved fiscal balance. These policies were growth-oriented but also had some negative impacts. For instance, the trade liberalization policy had a negative impact on the industrialization process. Tariff reductions increased the demand for imports which were previously

[47] The main reason for abolishing the Export Bonus Scheme was that it benefited a few rather than the masses.

domestically produced. Rather than increasing productivity or competition, this forced some industries to close down. Similarly, to improve fiscal balance, the government had two policy options: either increase taxation or decrease expenditure. The governments actually opted for both; instead of increasing the tax base, the governments increased direct and indirect taxes. Coupled with other reasons,[48] inflation increased sharply; the average inflation rate over this period was 10%. Under the second policy option, the pressure was on reducing development expenditure rather than less lavish expenditure. The share of development expenditure relative to GDP reduced from 7% in 1988 to 3.3% in 1999. The regime generated more employment, but most was unproductive and political rather than economic. As a result, under this regime employment generation growth was 2.8% and worker output grew at 1% only; 70% of output growth was accounted for by growth of labor.

Output growth under the third autocratic regime (2000-2007) was remarkable; good luck was again in favor of this non-elected government, which enjoyed windfall gains in huge foreign aid and increased foreign remittances, mainly because of the 9/11 event and Pakistan's becoming a front-line ally in the US-led War On Terror. Policies adopted by this regime were similar to those of the previous one, but the emphasis was more on private sector development; deregulation of business activity; fewer subsidies; promotion of the financial sector; and accumulation of human capital. Output grew at 5% per annum. Another striking feature was the increased female participation rate, from 15% in 1999 to over 21% in 2007. There was a rise in employment of around 4%, and output per worker grew at 1.2% per annum.

[48] Such as increase in utility prices, continuous depreciation of Pakistani rupee etc.

The last democratic government (2008-2010) enjoyed about 3% growth in output, similar to the first democratic regime. Because of some poor policy decisions of the previous autocratic regime, this government faced a severe law-and-order situation and acute electricity and gas shortages, with a resultant reduction in investor confidence. Other challenges included a global recession and natural disaster (flood), which may have been responsible for lower output growth. Employment grew at almost at the same pace as output; output per worker grew at just 0.5% per annum.

Table 2.11 decomposes the growth of output per worker into three components: (i) growth from physical capital accumulation; (ii) growth from human capital accumulation; and (iii) growth from productivity. It shows that in the last over six decades, Pakistan's output per worker grew at an average 2.2% per annum, more than Afghanistan (0.1%) and Bangladesh (1.2%) but less than India (3.1%) and China (5.7%).[49] Growth per worker under the first and second autocratic regimes was substantially faster than the other regimes, at 3.6% per annum. The lowest per worker growth was in the most recent democratic period, at slightly above 0.5%, which may be attributed to excessive unproductive employment generation.

It is also evident from Table 2.11 that there is no substantial role played by physical capital accumulation in generating per worker output, fluctuating around the mean of under 0.5%. In its early development years, Pakistan adopted import substitution policy as the main vehicle to achieve its goals. Unsurprisingly, under the first democratic regime, the contribution of physical capital accumulation was negative. Successive political regimes tried gradual liberalization of trade, particularly imports. The impact of a liberalized import policy is shown by the positive contribution of

[49] See Table 2.3 for data on Afghanistan, Bangladesh, India and China

physical capital accumulation in generating per worker output. The first autocratic regime fully recognized the importance of physical capital accumulation and adopted policies which increased investment in physical capital. Under this regime, physical capital contributed 0.84% to per worker output growth of 3.5%. Successive regimes paid attention to accumulation of physical capital but there seems to have been a decline in relative importance.

Surprisingly, under the third autocratic regime (2000-2007), the contribution of per worker physical capital again turned negative. The first five years of this regime show negative per worker physical capital growth (see Table 2.12); whereas in the final three years it showed positive growth. The negative contribution may be attributed to a relative change in physical stock and employed labor. Growth of the employed labor force was higher than growth in physical stocks, which made the net effect negative. One possible reason for the higher employment effect was increased female participation. In 1999, the female participation rate was 15.3%, which increased by 2007 to 21.3%. The slower growth of physical capital stock may be attributed to the prevailing environment, when the military took over from the democratic government. After two years, 9/11 happened and US started its War On Terror, with Pakistan as one of the front line countries. All this increased uncertainty, which may have some effect on investor confidence.

The contribution of human capital to per worker output showed an increasing trend, on average contributing 0.6% while generating 2.2% per worker output. Each successive regime recognized the importance of human capital. The reasons for the increasing trend are shown in Table 2.13 where it is evident that in six decades, the average years of schooling rose 4.5 years, from 1 year in 1951 to 5.5 years in 2010. It

can be seen that under the first democratic regime the change in average years of schooling was less than one month, which is very low, reflecting the government's total negligence of the education sector. Public spending on health relative to GDP was just 0.1%. However, from 1978, these sectors became more important. The third democratic regime spent around 2.6% of GDP on education and 0.8% percent on health. The highest change in average years of schooling was observed in this regime, and the major source of long-term growth under the third autocratic regime was human capital.

As for construction, the growth of TFP is residual: whatever is unexplained by factor accumulation is captured by TFP. Table 2.14 shows the relative contribution of factor input and productivity in generating per worker output. It is clear from the Table 2.14 that in the last six decades, 50% of per worker output was the result of factor accumulation, and the other 50% was from productivity. However, the relative share of productivity changed from regime to regime and from time to time. Under the first democratic regime, there was a negative relative share of input, implying that all growth was generated by productivity growth. The possible reason for the very low share of factor input is a scarcity of physical and trained human capital in the early years of independence. Successive governments adopted different policy options and accumulated factor inputs. So, under the first autocratic and second democratic regimes, the share of factor inputs increased to 30% and 60% respectively, which lowered the share of TFP from full to 40%. Interestingly, the TFP share in generating per worker output rose 70% under the second autocratic regime, and declined, becoming negative under the fourth democratic regime.

2.7. Determinants of Productivity – An Econometric Analysis

The literature identifies variables that potentially affect productivity (see Isaksson, 2007, for a comprehensive review). In this section we will briefly explain the details of variables and then made an econometric model to estimate the coefficients.

2.7.1. Variables Description

This section briefly explains the causality between our variables of interest and productivity. Table 2.15 explains descriptive statistics of our sample.

2.7.1.1. Investment in Human Capital and Productivity

Productivity literature recognizes human capital as an important determinant of total factor productivity (see Benhabib and Spiegel, 1994; Mayer, 2001). It enhances skills, knowledge and absorption capacity, pre-requisites for creating or adopting technology (Acha et al, 2004). Generally, human capital refers to education, health, training and development. The most notable indicator of human capital is average years of education. In estimating productivity, we have already taken this variable into account (see Section 2.5.4). Our focus here is the health of the workforce. The ideal indicator for this variable is investment in employee health, by both government and private sector. However, because of the limited data, we focus only on government investment in health.

Another indicator that has been used in the literature is life expectancy (Cole and Neumayer, 2003). We use government health expenditures and life expectancy at birth as indicators of human capital.

Figure 2.3 plots a scatter relationship between human capital and total factor productivity, showing a positive relationship and re-emphasizing the importance of

human capital in enhancing productivity. However, in Pakistan, government spending on health has been very low. During the period under study, the average health spending was around 0.5% of GDP. There was a growth trend up to 1988, but health was somehow ignored in the 1990s and 2000s. Life expectancy at birth is also low (2010: 66 years) compared to neighboring countries of Bangladesh (2010: 69.5 years) and China (2010: 74.9 years).

2.7.1.2. Investment in infrastructure and Productivity

Undoubtedly, investment in infrastructure has a positive impact on productivity, facilitating the production process and increasing factor input efficiency. For instance, building roads connects markets, reducing transaction costs and increasing efficiency. Provision of electricity, gas, communications, water and sewerage systems raise labor and capital productivity (see Munnell, 1992; Dessus and Herrera, 2000).

We use government spending on development projects net of health projects as a proxy for investment in infrastructure. Figure 2.4 shows the potential relationship between total factor productivity and public spending on development projects. During the period under consideration, Pakistan's average spending on development projects was about 9%.

2.7.1.3. Net General Government Spending and Productivity

General government spending, as measured by share of government expenditure in GDP, may have two contrasting effects on productivity levels. On the one hand, government spending on provision of basic necessities, adequate compensation for government employees, investment in technology embodied in physical capital and maintaining law and order may improve productivity levels. On the other hand, higher government spending may crowd out the private sector, which may lower productivity.

The share of government final consumption expenditure relative to GDP can be used as an independent explanatory variable in determining impact on productivity. Since we use government spending on health facilities and infrastructure as a separate productivity determinant, it is advisable to take these variables into account in measuring government size. We subtract out the government spending on health facility and development projects from government final consumption expenditure. Therefore, we use net share of government spending relative to GDP as our preferred measure.

In Pakistan, the major heads of total government spending include defense (23.4% of total spending), debt servicing (28.5%), general administration (4%), economic, social and community services (4.2%) and law and order (1.4%). The sample average net government spending was 22% of GDP. The scatter plot between TFP and net government spending is in Figure 2.5, which shows a positive relationship between them.

2.7.1.4. Development of Financial Sector and Productivity

Financial sector development is critical in enhancing productive capacity. It mobilizes savings, opens new investment opportunities, helps reduce transaction costs and increases allocative efficiency, all important aspects in boosting productive capacity. A better and well-integrated financial system promotes the domestic business culture, attracts foreign investment and helps access funding for innovative projects and R&D.

Following King and Levine (1993), Rajan and Zingales (1998), and Levine et al (2000), we use domestic credit to private sector relative to GDP as an indicator to measure depth of financial development. Figure 2.6 supports the hypothesis that financial development helps promote productivity.

2.7.1.5. Trade and Productivity

Trade is also an important determinant of productivity (see Frankel and Romer, 1999; Irwin and Tervio, 2002; Alcalá and Ciccone, 2004). Trade helps diffuse knowledge, technology and innovative ideas, all essential elements for enhancing productivity. When firms are integrated through trade, they are able and encouraged to learn from their counter partners. Trade also helps transmit technologies and technical knowledge.

Pakistan's total exports as a percentage of GDP fluctuate around an average of 12%. Major export items include cotton, cotton yarn, ready-made garments, leather and leather products, surgical items and sports goods. Pakistan's import share moves around an average of 17.6%. Food items, petroleum and petroleum products, machinery, textiles and raw metal materials are major imports. Pakistan's trade is highly concentrated on Asia (1952: 48%; 2013: 64%) and Western Europe (1952: 41%; 2013: 18%).

We use share of export and import relative to GDP to gauge the impact of trade on productivity.

2.7.1.6. Foreign Direct Investment, Foreign Assistance and Productivity

Foreign direct investment (FDI) is considered a technology carrier (Isaksson, 2007). Countries with higher FDI are more likely to have relatively advanced technology. It helps improve backward and forward linkages, domestically and internationally, attracting new technology and innovative production processes, and boosts demands for skilled and non-skilled labor. However, FDI may crowd out domestic production, enjoy preferential government treatment and bring about shutdown of domestic companies, which in turn reduces domestic investment and increases unemployment.

We use net flow of FDI relative to GDP as an indicator in estimating FDI impact on productivity. The sample data shows that the average FDI value was only 0.6% of GDP, which seems very low. Figure 2.7 plots total factor productivity against FDI; the scatter plot shows a positive link between the two variables of interest.

Foreign assistance is another channel raising productivity; it generally substitutes domestic finance, which may be used for other productive purposes. It bridges the gap between domestic financial need and supply. Foreign assistance includes technical assistance, which enhances the technical know-how of domestic producers.

We use share of foreign assistance (projects) in total foreign assistance to gauge its impact on productivity. Our sample shows that the average share of foreign assistance in projects comprises 52% of total foreign assistance.

2.7.2. Empirical Methodology

We use the following simple econometric model to investigate the possible determinants of Total Factor Productivity for Pakistan economy:

$$\begin{aligned}\ln(TFP)_t = \varphi_0 + \varphi_1 \ln(Health)_t + \varphi_2 \ln(Life\ Expect)_t + \varphi_3 \ln(Schooling)_t \\ + \varphi_4 \ln(Dev.Exp.)_t + \varphi_5 \ln(Gov.\ Spending)_t + \varphi_6 \ln(Privy)_t \\ + \varphi_7 \ln(Export)_t + \varphi_8 \ln(Import)_t + \varphi_9 \ln(FDI)_t \\ + \varphi_{10} \ln(FA\ Share)_t + \varepsilon_t \qquad (8)\end{aligned}$$

Here TFP refers to total factor productivity, $Health$ is the share of government spending on health in GDP; $Life\ Expect$ is life expectancy at birth; $Schooling$ is the average years of schooling; $Dev.Exp.$ is the share of public spending on development projects net of health spending in GDP; $Gov.\ Spending$ is the share of general government spending net of health and development spending in GDP; $Privy$ is

domestic credit to the private sector relative to GDP; $Export$ and $Import$ are respectively the share of export and import in GDP; FDI is foreign direct investment relative to GDP; and $FA\ Share$ refers to foreign assistance share of projects in total foreign assistance. The parameter φ_i estimates the causal effect of the above variables on productivity. The subscript t denotes the time index, from 1951 to 2010, and ε is the error term that contains all other factors which have not been incorporated in our model, with the assumption that $E(\varepsilon_t) = 0$ for all t.

Whether productivity differs in autocratic and democratic regimes, we use $Democracy$ as an additional explanatory variable in Equation (8) and estimate its impact on productivity using the following econometric model:

$$\begin{aligned}\ln(TFP)_t = {} & \varphi_0 + \varphi_1 \ln(Health)_t + \varphi_2 \ln(Life\ Expect)_t + \varphi_3 \ln(Schooling)_t \\ & + \varphi_4 \ln(Dev.Exp.)_t + \varphi_5 \ln(Gov.\ Spending)_t + \varphi_6 \ln(Privy)_t \\ & + \varphi_7 \ln(Export)_t + \varphi_8 \ln(Import)_t + \varphi_9 \ln(FDI)_t + \varphi_{10} \ln(FA\ Share)_t \\ & + \delta\ (Democracy)_t + \mu_t \qquad (9)\end{aligned}$$

In Equation (9), our interested parameter is δ. If δ appears to be positive and significant, it implies that the degree of democracy has positive and significant impact on productivity.

Besides the level, we also estimate determinants of total factor productivity growth. In this case, we maintain the consistency and use the same specification of equation (9) but take the log difference of the equation.

We use an annual time series to estimate determinants of total factor productivity and its growth. In time series analysis, it is more often the case that a disturbance term correlates with its past values. The presence of serial correlation invalidates inferences

drawn upon the estimation obtained from simple Ordinary Least Square (OLS) method. One possible solution to overcome this issue is that the interested parameters may be estimated through the Generalize Least Square (GLS) or Feasible Generalized Least Square method (FGLS).[50] We use the Durbin Watson H-test to validate our assumption of 'no serial correlation' before we finalize the estimation of our parameters of interest. If we fail to reject the null of 'no serial correlation,' we use OLS; otherwise FGLS.

The relationship between our explanatory variables and total factor productivity may be endogenous. For instance, we assert that to improve productivity, trade may help in diffusion of knowledge, technology and innovative ideas. However, to increase trade, it is necessary that firms be competitive, with comparative advantage. A firm may obtain a competitive edge for its products by increasing productivity. Thus, trade may be endogenous. The presence of endogeneity in the variable invalidates the estimation by simple OLS. One solution to this issue is that we may use an IV for endogenous variable. However, in a time series, it is hard to find a good IV with data on a longer time horizon. Another possible solution to handle the endogeneity issue is to take advantage of the time series by using past realization as an instrument of current realization. The basic intuition behind this strategy is that the past may affect the future but the future seldom or scarcely affects the past. Therefore, following Muller and Seligson (1994), Oneal and Russett (1997 & 1999) and Li Reuveny (2003), we use the first lag of all independent variables as regressors in estimating causal effect on total factor productivity.

[50] For detail discussion, see Gujarati and Porter (2009), p. 442-448

Using time series, it is highly likely that we may meet the issue of 'spurious regression.' Gujarati and Porter (2009) point out that in a spurious regression, the t statistics and R^2 are misleading and cannot be used for hypothesis testing. One possible remedy for this issue is to de-trend the data. We have, therefore, de-trended the data of our variable of interest before use in estimating causal relationship.

2.8. Empirical Results

We begin our analysis by using estimating Equation (8); the estimated results are shown in Table 2.16 and Table 2.17. The former reports determinants of total factor productivity at level and the later reports the estimated determinants for growth. In both tables, the robust standard errors are reported in parenthesis. Column (1~4) of Table 2.16 and Table 2.17 report estimates for our explanatory variables at level, whereas column (5~8) addresses the issue of endogeneity and estimates causal relationship between our variable of interest and productivity at first lag. We found that on average, the coefficients are over-estimated when we estimate them at level[51]. For instance, we are able to correct 33 percent bias from the coefficient of $Life$ by estimating at first lag. The bottom panels of the tables report the strength of our analysis. The Durbin–Watson value measures the possibility of first order serial correlation. If the value is around 2, we are not expecting a serial correlation problem in our models (Gujarati and Portal, 2009, p. 436). R^2 represents $adjusted\ R^2$ and measures explanatory power of the model. We prefer estimates of column (08) over all other models on the grounds that it estimates the casual impact of all explanatory variables on the level of productivity at once and addresses the issue of endogeneity.

[51] Here we compare the estimates at column (8) with column (4)

2.8.1. Determinants of Total Factor Productivity at Level

The first two rows of columns (1~8) of Table 2.16 estimates the impact of human capital on productivity. As expected, public spending on health facilities positively and significantly increases productivity. Our estimate suggests that a 10% increase in public spending on health increases next year productivity by 1.2%. One possible reason for a small coefficient is the lower relative share of government spending on health; the average relative share of GDP spend on health is 0.5%. Similarly, life expectancy has positive and significant impacts on productivity. Our estimate suggests that an additional year of life expectancy increases productivity on average by 2.7%.

Columns (2~4 & 6~8) of Table 2.16 estimate the government role in enhancing total factor productivity. We add two variables: $Dev.Exp.$ and $Gov.\ Spending.$ As expected, public spending on development projects appears an important determinant of total factor productivity. We found positive but mostly significant coefficients. Our estimate suggests that higher development spending leads to higher productivity. However the estimated impact is small. A 10% rise in public development spending increases productivity by 0.6%. The possible reason for having relatively small impact may be attributed to continuously declining trend of development expenditure relative to GDP. While average development spending relative to GDP is reasonable (10%), however, it is continuously declined from a peak of 21% in 1967 to 4% in 2010.

The impact of net government spending on factor productivity is reported in columns (2~4 & 6~8) of Table 2.16. We found positive and mostly significant coefficients. The positive significant sign implies that general government spending on security,

law and order and better employee compensation is beneficial in improving productivity.

The fifth row of Table 2.16 shows estimated impact of financial development on productivity. We found mostly insignificant coefficients. However, the sign of coefficients depend on model specification. When we run the model at levels, we observe negative but insignificant coefficients. The sign changes from negative to positive when we run the model at first lag of explanatory variables. The positive coefficient implies the importance of the financial sector in improving productivity. The composition of domestic credit for the private sector may explain insignificance of coefficients. About 54% of domestic credit is allocated to the consumption sector,[52] textiles and petroleum and allied refinery sectors. Only around 3% of credits are for machinery and equipment, electrical machinery and electronics. The remaining portion of credit is allocated to service and other sector of the economy. This highlights the fact that most part of the credit is being allocated to non-productive sectors.

Columns (3~4 & 7~8) of Table 2.16 investigate the influence of the external sector on domestic productivity. Here we add four external variables: $Export$; $Import$; FDI; and $FA\ Share$. We got a significant and positive impact of exports on productivity, but mostly negative and insignificant coefficients for imports. Our estimates show that exports are a good determinant of productivity, whereas imports are not. The negative sign associated with imports implies that imports reduce productivity. As explained above, Pakistan's major imports are food, petroleum and petroleum products, machinery, textiles and raw materials. Pakistan's imports of

[52] Includes food, tobacco and beverage, cement and other non-metals

machinery, fertilizers, pesticides and transport equipment make up 32% of all imports; around 2/3 of all imports comprise non-productive items. We separately check the productivity impact of machinery imports, and find positive but insignificant coefficients (results are not shown); this may imply that imported machinery is either outdated or too advanced, requiring sufficient absorption capacity. Our findings are consistent with Khan (2006).

We fail to find any significant impact of FDI on productivity when we run the model at first lag of explanatory variables. The positive sign associated with this variable implies that FDI is on the potential determinants of total factor productivity; however, in Pakistan case, it is not. The reasons for the insignificant FDI impact may be two-fold. First, in terms of size, the average FDI value relative to GDP is 0.6%, which may explain why we fail to get positive but insignificant coefficients. Second, as to FDI direction[53], we observed that between 2002 and 2010, about 60% of FDI was in the service sector [54] . Although it may improve productivity in sectors like communications and power but it has come to these sectors very recently[55] and it takes time to realize benefits.

The impact of $FA\ Share$ on the level of total factor productivity is appeared to be positive and mostly significant. Positive and significant sign of this variable highlights the fact that foreign assistance in development projects can supplement the need of domestic financing for enhancing productivity. However, the impact is relatively small. It shows that a 10% increase in share of foreign assistance can improve the level of total factor productivity by 0.4%.

[53] We do not have sector-wise composition of FDI prior to 2002.
[54] It includes communications, power, trade, tourism, storage facilities, financial business and other social and personal services.
[55] The major chunk comes in 2007 and 2008 and our sample period ends in 2010.

Using Equation (9), we estimate the regime effect on the level of productivity; estimated coefficients are reported in columns (4 & 8) of Table 2.16. For both models we got positive but insignificant coefficients of the $Democracy$. The positive but insignificant sign implies that the degree of democracy has no systematic impact on the level of total factor productivity. This finding is consistent with our descriptive analysis (see Table 2.16). Except for the last three years[56], the average contribution of total factor productivity in generating per worker output under democratic and autocratic regimes is the same. This is an interesting finding. It implies that in the short-run, regime matters in determining productivity. However, in the long-run, the impact of democratic and autocratic regimes on productivity equalizes.

2.8.2. Determinants of Total Factor Productivity Growth

Column (1 & 5) of Table 2.17 estimates the growth effect of human capital on total factor productivity growth. The estimated results show that growth of life expectancy has positive and significant impact on the growth rate of productivity while growth of health spending has insignificant impact. As explained before, the reason for not getting significant impact of health spending on productivity growth may be related to its sheer size. During the last sixty years, the average growth of public health spending relative to GDP was around 4%. However, its growth remained volatile and showed a continuous declining trend.

The growth of public spending on development projects appeared to be significant positive impact on productivity growth (see column 8 of Table 2.17). Our estimate suggests that a one percent increase in development spending leads to one year ahead

[56] We ignore last three years because these years cannot be considered as normal years. These are the years when there was a global economic recession, in these years, Pakistan economy experienced a massive flood and had a sever energy crisis.

growth of productivity by 5.2%. This is a substantial impact and highlights the importance of development spending on productivity enhancing projects.

Growth of exports is another determinant of productivity growth. We found positive and significant coefficients in all models. Our estimate predicts that one percent increase in export earnings leads to 9% increase in next year productivity growth, ceteris paribus.

We fail to find any systematic impact of growth of general net government spending, financial development, foreign direct investment, import of goods and services, foreign assistance and regime effect on the growth of productivity.

2.9. Conclusion and Policy Implications

What determines the long-run sources of Pakistan's economic growth? A regime-wise analysis is conducted over the sample period of 1951 to 2011. Pakistan's output per capita growth fluctuates around a mean of 2.2%. However, patterns of growth under autocratic and democratic regimes differ. The analysis shows that economic performance under an autocratic regime is better than under a democratic regime. When we decompose output growth into factor inputs and productivity, it is observed that half the growth is from labor growth. In growth of output per worker, the contributions of factor inputs and productivity are fifty-fifty. Analysis of per worker growth under each regime reveals that productivity was the main driver in the first two autocratic regimes; under the last autocratic regime, human capital appeared to be the main source of output per worker growth. It is observed that the share of human capital in generating per worker output is larger than the share of physical inputs. However, the share of productivity declined continuously from 1989, and became negative under the last democratic regime. Overall, it is observed that growth sources

have changed dramatically. In the early regimes, productivity was the main source; in later regimes, human capital was the main driver of economic growth.

What drives productivity in Pakistan? We conduct an econometric analysis for estimating the determinants of level and growth of productivity. We found that government spending on health, development, national security, law and order and employee compensation and export of goods and services may increase level of productivity. Life expectancy at birth is a robust determinant of productivity level. Imports of goods and services appear to have a negative but insignificant impact on productivity level. We do not find any significant impact of imports of goods and services, FDI and foreign assistance on productivity level. We also fail to find any significant difference in productivity under a democratic or an autocratic regime.

Under econometrical growth analysis of productivity, we found life expectancy at birth, government spending on development projects and export of goods and service have significant positive impact on the growth rate of productivity.

In sum, the sources of long-run economic growth are mixed; earlier regimes, productivity was the main source, but it has now become human capital. This drastic change made recent productivity growth negative, which may have serious implications for long-run growth. Ignorance of capital accumulation also to some extent explains growth volatility. In the short-run, a political regime matters in determining productivity and subsequent economic growth. However, our analysis shows that, in the long-run, the average impact of an autocratic or democratic regime is the same in determining productivity. Good economic policies under an autocratic regime may off-set negative consequences of the autocratic regime on productivity and economic growth.

Our analysis offers several policy implications. First, we cannot deny the importance of physical capital accumulation. Without sufficient amount of physical capital, no country can grow. Our analysis suggests that the negative growth of physical capital partly explain why Pakistan economy fails to change its economic status. Second, though Pakistan economy recently recognized the importance of investing in human capital but there is still a room for further investment in education and health facilities. Third, negative growth of productivity highlights policy makers' ignorance of this area. Our econometric analysis suggest that productivity can be enhanced by increasing investment in health and development projects, providing secure environment and higher government spending on employees' compensation and trainings. Fourth, our analysis re-emphasizes the importance of development of financial sector for enhancing productivity. However, while allocating credits to private sector, there is a need to give a priority to the sectors[57] which has higher potential for enhancing productivity. Five, liberalizing the import of technology embodied machinery and equipments can increase productivity. Finally, our analysis reveals that the type of regime does not matter. What matters the policies that pursued under a political regime. If policies are good enough, then whatever type of regime is, it has long-lasting impact on productivity and economic growth.

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[57] Such as education, health, communication, import of machinery and equipment, R&D etc

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Table 0.1: Pakistan's Political History

Type of Regime	Duration (Period)	Duration (Years)
Democratic	1947 – 1958	11
Autocratic	1958 – 1971	13
Democratic	1971 – 1977	06
Autocratic	1977 – 1988	11
Democratic	1988 – 1999	11
Autocratic	1999 – 2007	08
Democratic	2007 – 2014	08

Source: *Relevant information is extracted from Pakistan's National Assemble's website (www.na.gov.pk)*

Table 0.2: Trend of Real GDP Growth

(Percent)

	1950s	1960s	1970s	1980s	1990s	2000s	Average
Pakistan	**2.3**	**7.1**	**4.3**	**6.2**	**3.9**	**4.5**	**4.7**
Panel A: Neighboring Countries:							
Bangladesh	4.4	0.7	1.8	3.6	3.4	5.8	3.3
India	3.8	4.3	3.5	5.3	4.8	7.5	4.9
China	6.8	3.2	6.3	8.7	9.9	9.8	7.5
Iran	14.1	10.2	1.4	1.8	4.0	3.7	5.9
Afghanistan	-	-	2.9	-1.6	-4.5	11.8	2.2
Panel B: Regions:							
South Asia	-	4.3	3.1	5.5	5.3	7.0	5.0
East Asia & Pacific	-	4.5	6.6	7.5	8.4	9.1	7.2
Middle East & North Africa	-	7.8	5.3	2.9	3.9	4.3	4.8
North America	-	4.6	3.3	3.3	3.4	1.7	3.3
Sub-Saharan Africa	-	5.0	3.7	1.5	2.2	5.3	3.5
World	**-**	**5.3**	**3.8**	**3.2**	**2.8**	**2.6**	**3.5**

Note: *East Asia & Pacific and Middle East & North Africa regions include only developing countries; whereas, Sub-Saharan Africa include all income levels.* ***Data Source:*** *for Pakistan and Panel A countries: Heston, Summers and Aten (2012); for Panel B regions: World Bank (2014).*

Table 0.3: Trends of Output per Worker

(Percent)

	1950s	1960s	1970s	1980s	1990s	2000s
Panel A: PAKISTAN						
Change	$1782 to $2034	$2034 to $3310	$3310 to $4066	$4066 to $5473	$5473 to $5976	$5976 to $6681
Growth	1.3	4.9	2.1	3.0	0.9	1.1
Panel B: Neighboring Countries (Growth)						
Bangladesh	3.5	-0.7	-0.8	0.5	1.6	3.2
India	2.6	2.5	1.5	3.1	2.7	6.0
China	5.2	1.1	3.8	6.2	8.8	8.9
Iran	12.0	7.9	-1.5	-2.3	0.8	0.6
Afghanistan	-	-	1.1	-0.2	-8.8	8.5

Note: *Change in output per worker is measured on PPP at 2005 constant prices.*
Data Source: *Heston, Summers and Aten (2012.)*

Table 0.4: Capital – Output Ratio

Country	1950s	1960s	1970s	1980s	1990s	2000s
Pakistan	**2.9**	**2.8**	**2.6**	**2.5**	**2.5**	**2.7**
India	1.6	1.5	1.6	2.2	2.1	2.1
Bangladesh	-	1.2	1.3	1.6	1.7	2.9
China	1.2	1.8	1.8	2.0	2.4	3.3
Iran	2.9	3.7	4.3	10.3	5.9	3.2

Data Source: *Feenstra, Inklaar and Timmer (2013)*

Table 0.5: Growth of Employed Labor Force

(Percent)

	1950s	1960s	1970s	1980s	1990s	2000s	Average
Pakistan	**1.0**	**2.3**	**2.2**	**3.3**	**3.0**	**3.4**	**2.5**
India	1.3	1.8	2.1	2.2	2.0	1.8	1.9
China	1.3	2.1	2.5	2.1	1.8	0.4	1.7
Bangladesh	-	1.4	2.6	3.1	1.8	2.7	2.3
Iran	-	2.4	2.9	4.1	3.2	3.1	3.1
Afghanistan	-	-	1.7	-1.4	4.5	3.3	2.0

Data Source: *Heston, Summers and Aten (2012).*

Table 0.6: Labor Force Participation Rate

Country	Period	Δ Participation Rate	Δ Female Participation Rate
Pakistan	**1981 to 2011**	**0.51 to 0.46**	**0.07 to 0.22**
Bangladesh	1981 to 2005	0.48 to 0.59	0.05 to 0.29
India	1981 to 2010	0.61 to 0.55	0.33 to 0.29
Iran	1982 to 2008	0.45 to 0.42	0.12 to 0.15
China	1982 to 2011	0.68 to 0.70	-

Data Source: *World Bank (2014)*

Table 0.7: Distribution of Employed Person by Industry

(Percent)

Sector	1965	1981	1995	2002	2009
Agriculture	58.7	52.7	46.7	42.1	45.1
Manufacturing	14.5	9.2	10.4	13.8	13.0
Service	23.1	31.5	35.4	38.0	35.1
Others	3.8	6.7	7.5	6.1	6.8

Note: *Agriculture sector includes agriculture, forestry, hunting and fishing. Service sector includes services, financing, insurance, transport and communication, commerce, electricity, gas, water and sanitary services. Other includes mining and quarrying, construction and others.* ***Data Source:*** *State Bank of Pakistan (2010)*

Table 0.8: Average Years of Schooling – Selected Years

(Years)

	Pakistan	Bangladesh	India	Afghanistan	China	Iran
1950	**0.98**	0.91	1.00	0.26	1.57	0.53
1970	**1.57**	1.38	1.57	0.69	3.43	2.00
1990	**2.91**	3.15	3.44	1.87	5.62	4.84
2010	**5.53**	5.91	5.20	3.74	8.11	8.64

Data Source: *Barro and Lee (2013)*

Table 0.9: Growth of Human Capital

(Percent)

	Pakistan	Bangladesh	India	Afghanistan	China	Iran
1950s	**0.2**	0.1	0.1	0.1	1.0	0.5
1960s	**0.6**	0.5	0.6	0.4	1.5	1.5
1970s	**0.8**	1.2	1.0	0.7	1.5	1.8
1980s	**1.0**	1.2	1.5	0.9	0.9	1.7
1990s	**1.3**	1.6	1.0	1.3	1.5	2.3
2000s	**1.7**	1.5	1.0	1.2	1.0	1.3

Data Source: *Barro and Lee (2013)*

Table 0.10: Output, Labor and Output per Worker Growth

(Percent)

Regime	Period	Output Growth	Labor Growth	Output per worker Growth	Labor's Contribution
Full Sample	**(1951 - 2011)**	**4.7**	**2.5**	**2.2**	**0.5**
Democratic - I	(1951 - 1957)	2.94	0.99	1.95	0.3
Autocratic - I	(1958 - 1971)	5.61	2.04	3.57	0.4
Democratic- II	(1972 - 1977)	4.06	2.28	1.78	0.6
Autocratic - II	(1978 - 1988)	6.50	2.91	3.60	0.4
Democratic - III	(1989 - 1999)	3.97	2.87	1.10	0.7
Autocratic - III	(2000 - 2007)	5.01	3.73	1.28	0.7
Democratic - IV	(2008 - 2011)	2.88	2.31	0.57	0.8

Note*: If the chief executive assumes power through election and open competition, it is considered as democratic regime otherwise autocratic regime. Labor's contribution is estimated by ratio of labor growth to output growth.* ***Data Source:*** *Feenstra, Inklaar and Timmer (2013).*

Table 0.11: Regime – Wise Productivity Growth

(Percent)

Regime	Period	g_y	g_k	g_h	g_tfp
Full Sample	**(1951 - 2011)**	**2.2**	**0.4**	**0.6**	**1.2**
Democratic - I	(1951 - 1957)	1.95	-0.39	0.12	2.22
Autocratic - I	(1958 - 1971)	3.57	0.84	0.38	2.35
Democratic- II	(1972 - 1977)	1.78	0.61	0.55	0.63
Autocratic - II	(1978 - 1988)	3.60	0.52	0.65	2.42
Democratic - III	(1989 - 1999)	1.10	0.36	0.87	-0.13
Autocratic - III	(2000 - 2007)	1.28	-0.12	1.30	0.10
Democratic - IV	(2008 - 2011)	0.57	0.34	0.64	-0.42

Note: *If the chief executive assumes power through election and open competition, it is considered as democratic regime otherwise autocratic regime.* ***g_y:*** *growth of output per worker;* ***g_k:*** *growth of capital input with weight (α=0.3);* ***g_h:*** *growth of human capital with weight (1-α=0.7); and* ***g_tfp:*** *growth of total factor productivity.* ***Data Source:*** *Feenstra, Inklaar and Timmer (2013).*

Table 0.12: Regime – Wise Productivity Growth – Further Details

(Percent)

		g_Y	g_n	g_y	g_k	g_h	g_tfp
Democratic – I (1951 - 1957)							
Full Period		2.94	0.99	1.95	-0.39	0.12	2.22
Autocratic – I (1958 - 1971)							
1st 5 years	(1958 - 1962)	3.89	1.53	2.36	0.58	0.34	1.44
2nd 5 years	(1963 - 1967)	6.82	2.28	4.54	1.34	0.40	2.80
Last 4 years	(1968 - 1971)	6.24	2.36	3.88	0.52	0.42	2.94
Democratic – II (1972 - 1977)							
Full Period		4.06	2.28	1.78	0.61	0.55	0.63
Autocratic – II (1978 - 1988)							
1st 5 years	(1978 - 1982)	6.75	3.28	3.48	0.37	0.58	2.53
Last 6 years	(1983 - 1988)	6.30	2.60	3.70	0.65	0.71	2.34
Democratic – III (1989 - 1999)							
1st 5-years	(1989 - 1993)	4.66	2.41	2.25	0.66	0.81	0.78
Last 6 years	(1994 - 1999)	3.39	3.26	0.14	0.10	0.92	-0.89
Autocratic – III (2000 - 2007)							
1st 5 years	(2000 - 2004)	4.23	3.69	0.54	-0.27	1.43	-0.63
Last 3 years	(2005 - 2007)	6.30	3.79	2.51	0.14	1.06	1.31
Democratic – IV (2008 - 2011)							
Full Period		2.88	2.31	0.57	0.34	0.64	-0.42

Note *If the chief executive assumes power through election and open competition, it is considered as democratic regime otherwise autocratic regime.* ***g_Y:*** *growth of output;* ***g_n:*** *growth of employed labor force;* ***g_y:*** *growth of output per worker;* ***g_k:*** *growth of capital input with weight (α=0.3);* ***g_h:*** *growth of human capital with weight (1-α=0.7); and* ***g_tfp:*** *growth of total factor productivity.* ***Data Source:*** *Feenstra, Inklaar and Timmer (2013).*

Table 0.13: Change in Human Capital

Regime	Period	Δ Average Years of Schooling (Years)	Average Educational Expenditure (% of GDP)	Average Health Expenditure (% of GDP)
Full Sample	**(1951 - 2010)**	4.50	-	
Democratic - I	(1951 - 1957)	0.06	-	0.11
Autocratic - I	(1958 - 1971)	0.54	-	0.41
Democratic- II	(1972 - 1977)	0.30	1.9	0.58
Autocratic - II	(1978 - 1988)	0.71	2.3	0.82
Democratic - III	(1989 - 1999)	0.94	2.6	0.83
Autocratic - III	(2000 - 2007)	1.30	2.1	0.57
Democratic - IV	(2008 - 2010)	0.61	2.5	0.56

Note: *If the chief executive assumes power through election and open competition, it is considered as democratic regime otherwise autocratic regime.* ***Data Source:*** *Average years of Schooling – Baro and Lee (2013); Educational Expenditure – World Bank (2014); Health Expenditure – State Bank of Pakistan (2010)*

Table 0.14: Contribution to per Worker Output Growth

Regime	Period	Physical Capital	Human Capital	TFP
Full Sample	**(1951 - 2011)**	**0.2**	**0.3**	**0.5**
Democratic - I	(1951 - 1957)	-0.2	0.1	1.1
Autocratic - I	(1958 - 1971)	0.2	0.1	0.7
Democratic- II	(1972 - 1977)	0.3	0.3	0.4
Autocratic - II	(1978 - 1988)	0.1	0.2	0.7
Democratic - III	(1989 - 1999)	0.3	0.8	-0.1
Autocratic - III	(2000 - 2007)	-0.1	1.0	0.1
Democratic - IV	(2008 - 2011)	0.6	1.1	-0.7

Note: *If the chief executive assumes power through election and open competition, it is considered as democratic regime otherwise autocratic regime. Relative contribution shares are computed by ratio of input growth to per worker output growth.* ***Data Source:*** *Feenstra, Inklaar and Timmer (2013).*

Table 0.15: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Panel A: At Level					
TFP	61	182.7084	42.2621	107.8408	237.1476
Health	61	0.0057	0.0027	0.0005	0.0119
Life Exp.	51	58.6695	5.5204	46.4337	66.1263
Dev. Exp.	61	0.0919	0.0448	0.0242	0.2060
Gov. Exp.	61	0.2210	0.0519	0.1394	0.3438
Privy	51	0.2406	0.0388	0.1115	0.2984
Export	61	0.0530	0.0104	0.0380	0.0764
Import	61	0.0801	0.0167	0.0529	0.1263
FDI	61	0.6043	0.7957	0.0100	3.7800
FA Share	50	0.5251	0.1594	0.1946	0.7836
Democracy	57	3.5438	3.3704	0	8
Panel B: At Growth					
TFP	60	0.012	0.028	-0.037	0.115
Health	60	0.040	0.166	-0.423	0.528
Life	50	0.007	0.004	0.002	0.020
Dev. Exp	60	-0.002	0.233	-0.793	0.510
Gov. Exp	60	0.002	0.127	-0.302	0.338
Privy	50	0.013	0.097	-0.254	0.228
Export	60	0.001	0.137	-0.323	0.412
Import	60	-0.003	0.148	-0.410	0.423
FDI	60	0.058	1.099	-3.497	3.555
FA Share	49	-0.016	0.293	-0.892	0.714
Democracy	55	-0.009	0.648	-2.197	2.197

Note: *See Appendix 2-A for variable details.* ***Source:*** *Author's Compilation*

Table 0.16: Determinants of Total Factor Productivity

					1st Lag of Explanatory Variables			
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Health	0.064[a]	0.058[b]	0.107[a]	0.100[a]	-0.009	-0.014	0.097[a]	**0.120[a]**
	(0.022)	(0.024)	(0.023)	(0.021)	(0.028)	(0.028)	(0.027)	(0.023)
Life	2.233[a]	2.292[a]	1.507[a]	1.484[a]	2.018[b]	1.306	1.135[a]	**0.994[a]**
	(0.518)	(0.530)	(0.433)	(0.398)	(0.925)	(0.971)	(0.404)	(0.299)
Dev. Exp.		0.029[c]	0.035	0.045[b]		0.023	0.056[b]	**0.056[b]**
		(0.016)	(0.021)	(0.019)		(0.017)	(0.024)	(0.024)
Gov. Exp.		0.042	0.107[a]	0.113[a]		0.032	0.104[a]	**0.147[a]**
		(0.035)	(0.031)	(0.031)		(0.026)	(0.035)	(0.037)
Privy		-0.027	-0.008	-0.016		0.068[b]	0.046	0.022
		(0.041)	(0.036)	(0.040)		(0.031)	(0.047)	(0.039)
Export			0.121[a]	0.104[b]			0.046	**0.130[a]**
			(0.041)	(0.040)			(0.038)	(0.038)
Import			-0.044	-0.054[c]			-0.081[a]	0.006
			(0.030)	(0.028)			(0.028)	(0.039)
FDI			0.008[c]	0.013[b]			0.008	0.008
			(0.005)	(0.005)			(0.005)	(0.006)
FA Share			0.023	0.026			0.033[b]	**0.037[b]**
			(0.016)	(0.016)			(0.014)	(0.017)
Democracy				0.005				0.003
				(0.005)				(0.005)
Constant	0.004	0.003	0.003	-0.004	-0.001	-0.006	-0.003	-0.010[c]
	(0.023)	(0.019)	(0.006)	(0.008)	(0.064)	(0.068)	(0.005)	(0.006)
Diagnostic								
D-Watson	2.25	2.21	1.98	1.81	2.38	2.44	1.97	1.83
R^2	0.34	0.43	0.84	0.90	0.12	0.19	0.88	0.93
N	51	51	50	46	50	50	49	45

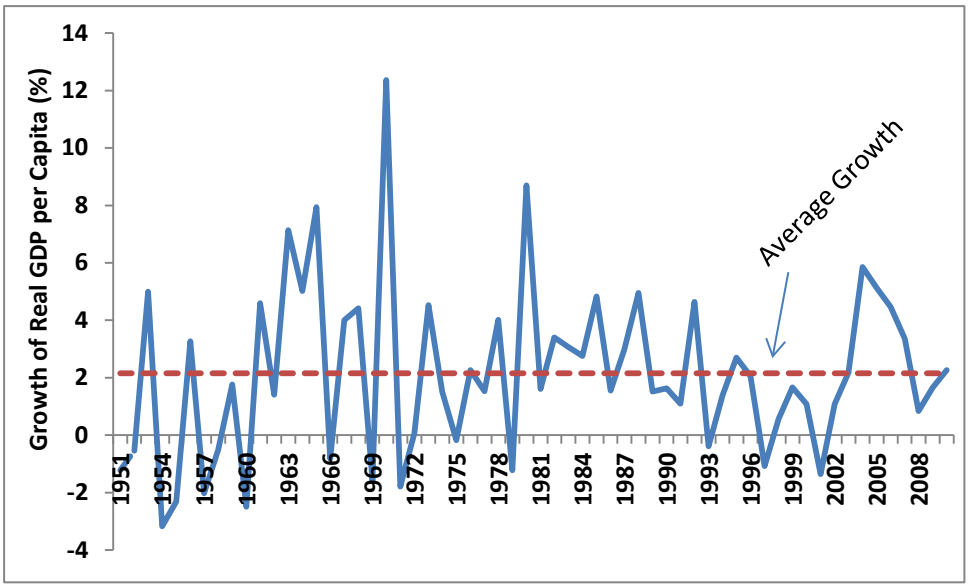
Note: *Dependent variable is total factor productivity. All variables are in natural logarithm. Robust standard errors are in parenthesis. In order to correct first order autocorrelation, estimations are based on Prais – Winsten and Cochrance – Orcutt FGLS estimators and contains annual time series for the period from 1951 - 2010. D – Watson refers to Durbin Watson test for serial correlation. See Appendix 2-A for variable details. a (p<0.01); b (p<0.05); c (p<0.1)*

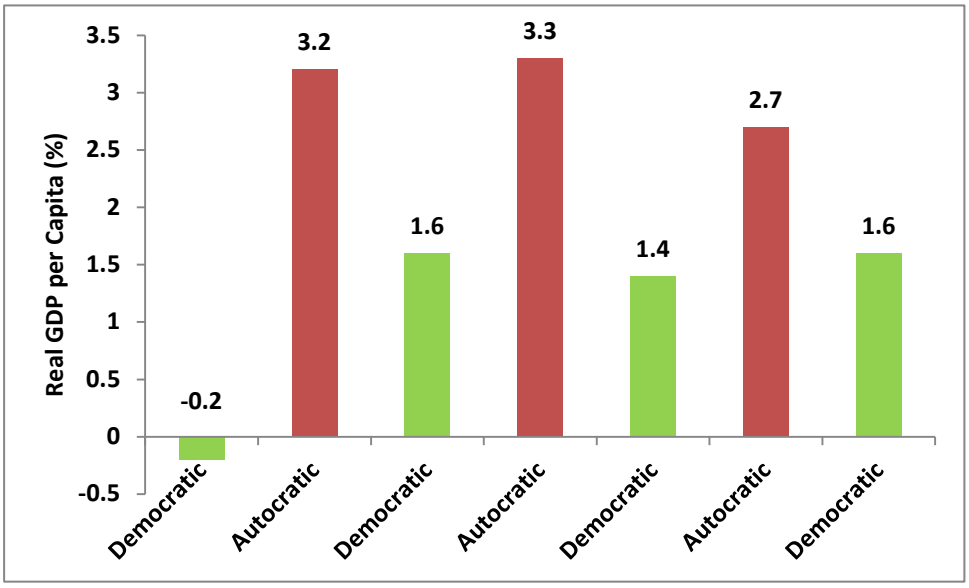
Table 0.17: Determinants of Total Factor Productivity Growth

					1st Lag of Explanatory Variables			
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Δ Health	0.033	0.021	0.037[c]	0.027	-0.004	-0.006	-0.002	-0.011
	(0.023)	(0.026)	(0.020)	(0.021)	(0.025)	(0.028)	(0.026)	(0.026)
Δ Life	2.168[a]	2.070[a]	1.868[b]	**2.095[b]**	2.323[a]	1.599[b]	2.084[b]	**1.860[b]**
	(0.660)	(0.765)	(0.727)	(0.879)	(0.737)	(0.754)	(0.825)	(0.725)
Δ Dev. Exp.		0.028[c]	0.006	-0.002		0.024	0.035	**0.052[b]**
		(0.016)	(0.018)	(0.026)		(0.016)	(0.022)	(0.022)
Δ Gov. Exp.		0.033	0.042	0.035		0.050	0.028	0.023
		(0.043)	(0.033)	(0.038)		(0.030)	(0.022)	(0.020)
Δ Privy		-0.003	0.011	0.002		0.067[b]	0.046	0.037
		(0.034)	(0.029)	(0.037)		(0.026)	(0.027)	(0.028)
Δ Export			0.100[b]	**0.070[c]**			0.085[b]	**0.090[c]**
			(0.039)	(0.041)			(0.033)	(0.044)
Δ Import			0.023	0.024			-0.020	-0.015
			(0.027)	(0.028)			(0.028)	(0.028)
Δ FDI			0.007	0.007			0.007	0.004
			(0.004)	(0.005)			(0.006)	(0.005)
Δ FA Share			0.012	0.005			0.029[b]	0.019
			(0.016)	(0.015)			(0.012)	(0.012)
Δ Democracy				0.002				0.001
				(0.005)				(0.004)
Constant	-0.004	-0.003	-0.004	-0.005	-0.006	-0.001	-0.004	-0.003
	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.006)
Diagnostic								
D-Watson	2.00	1.97	1.87	1.83	1.96	2.01	2.01	1.94
R^2	0.20	0.25	0.42	0.34	0.18	0.30	0.47	0.49
N	50	50	49	44	49	49	48	43

Note: *Dependent variable is total factor productivity growth. All variables are in natural logarithm. Robust standard errors are in parenthesis. In order to correct first order autocorrelation, estimations are based on Prais – Winsten and Cochrance – Orcutt FGLS estimators and contains annual time series for the period from 1951 - 2010. D – Watson refers to Durbin Watson test for serial correlation. See Appendix 2-A for variable details. a (p<0.01); b (p<0.05); c (p<0.1)*

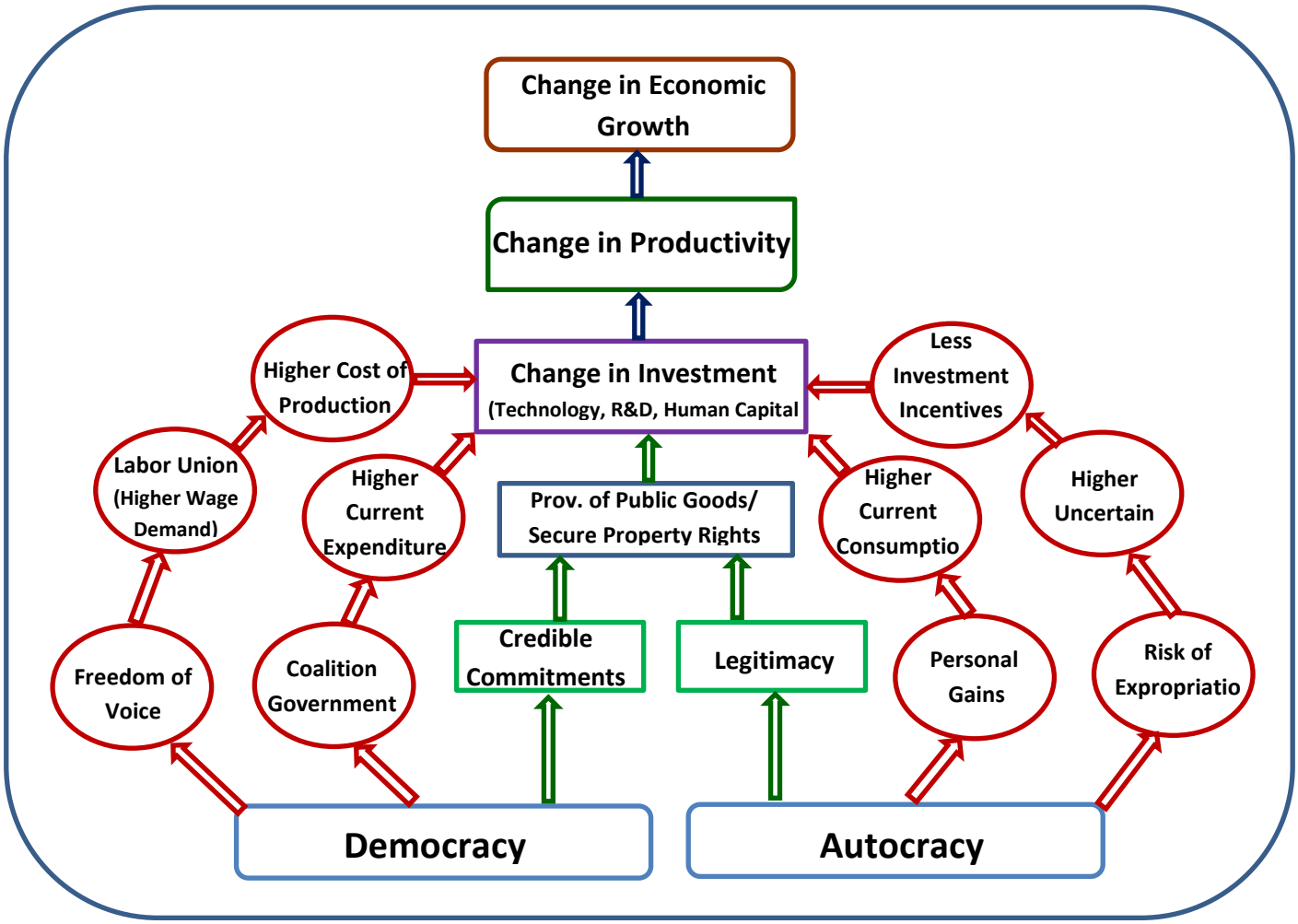
Figure 2.1: Regime Wise Trend of Per Capita Economic Growth





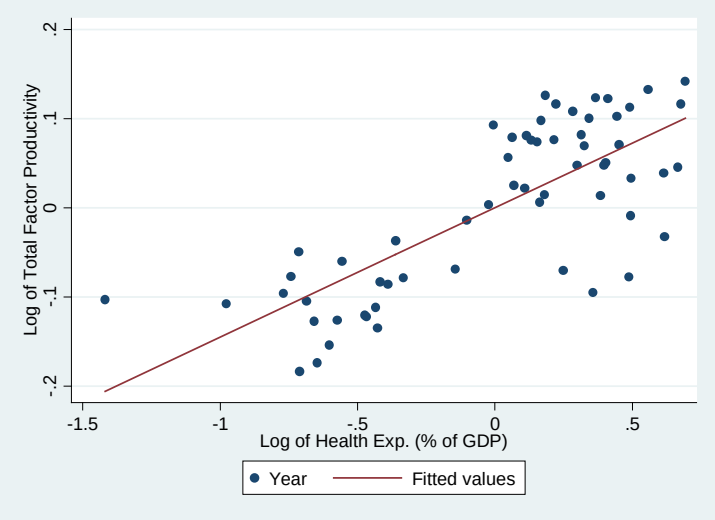
Note: *If the chief executive assumes power through election and open competition, it is considered as democratic regime otherwise autocratic regime.* ***Data Source:*** *Heston, Summers and Aten (2012)*

Figure 2.2: Potential Linkages between Political Regime and Economic Growth

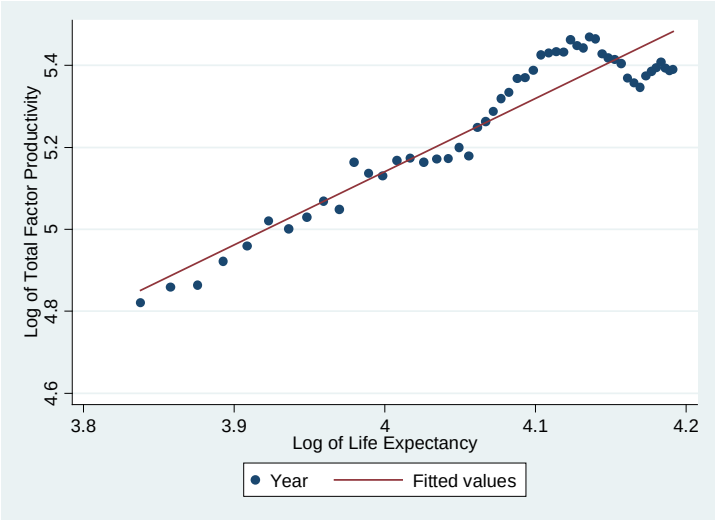


Note: The inner rectangles show positive linkages whereas the outer circles show negative linkages between political regime and productivity. **Source:** Author's work.

Figure 2.3: Human Capital and Total Factor Productivity

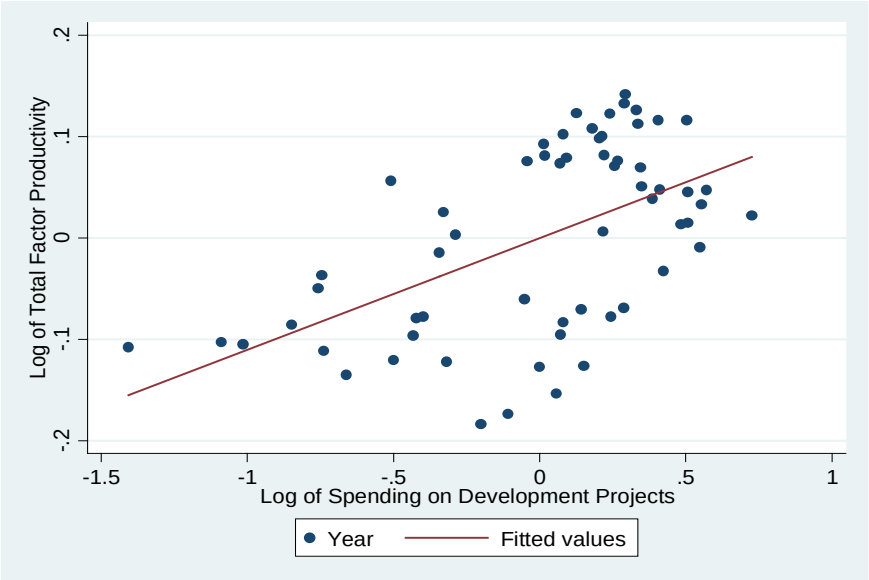


Data Source: *State Bank of Pakistan (2010)*



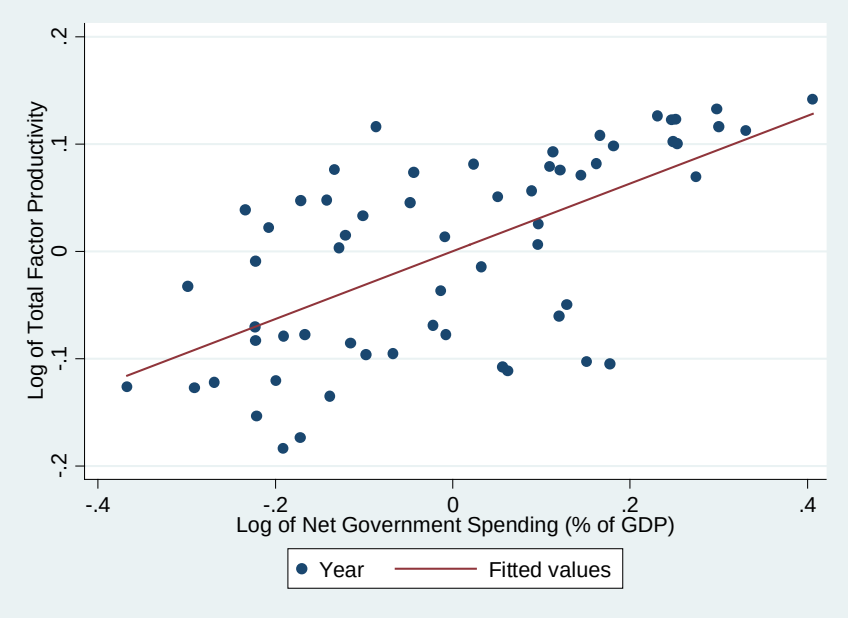
Data Source: *State Bank of Pakistan (2010)*

Figure 2.4: Investment in Infrastructure and Productivity



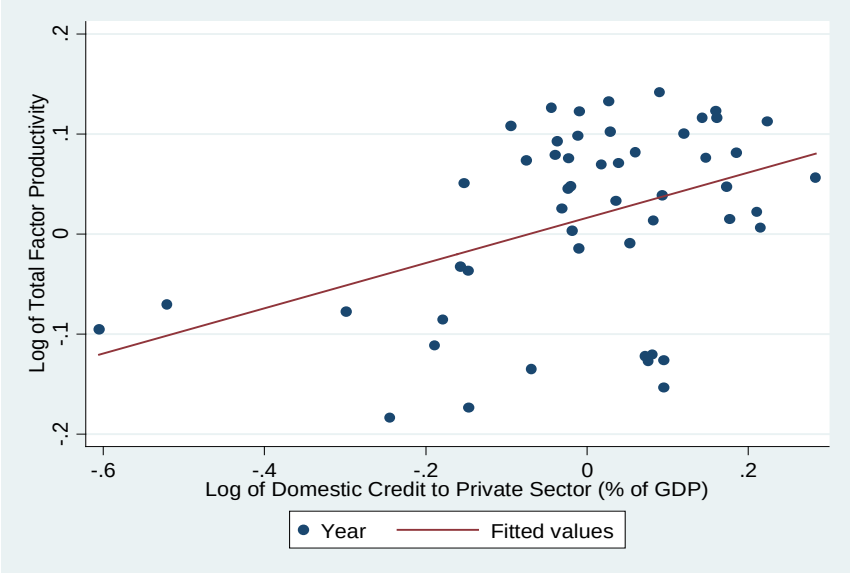
Data Source: *Pakistan Bureau of Statistics (1998), Updated from Pakistan Statistical Year Book (2008 and 2011)*

Figure 2.5: Net General Government Spending and Productivity



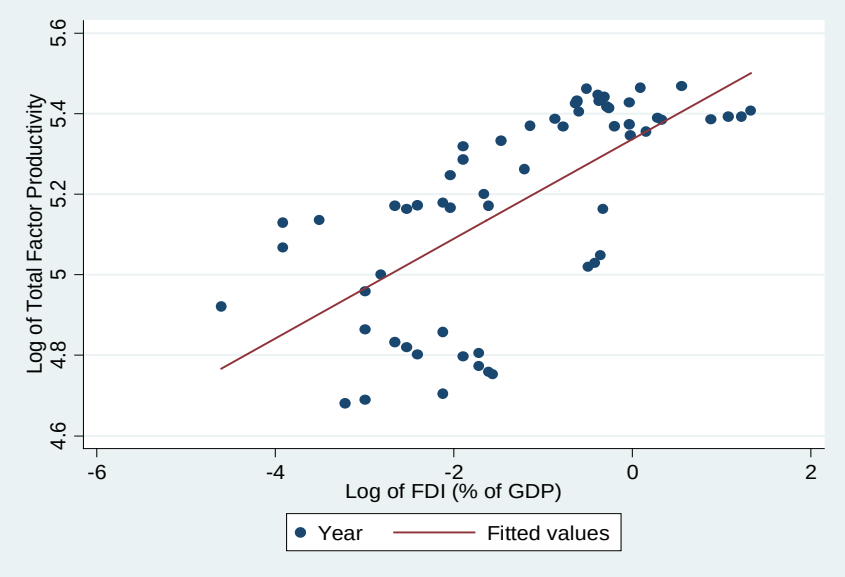
Data Source: *Pakistan Bureau of Statistics (1998), Updated from Pakistan Statistical Year Book (2008 and 2011)*

Figure 2.6: Financial Development and Productivity



Data Source: *World Bank (2014)*

Figure 2.7: Foreign Direct Investment and Productivity



Data Source: *State Bank of Pakistan (2010)*

Appendix 2-A: Variable Definitions

Variable	Definition	Justification	Data Source
TFP	Total Factor Productivity Index	Dependent Variable	Author's estimation
Health	Health Expenditure (% of GDP)	Raise human capital for adoption of technology	SBP (2010)
Life	Total Life Expectancy at Birth (Years)		WDI (2014)
Dev. Exp.	Development Expenditure, net of Health Exp. (% of GDP)	Increases productive capacity	PBS (1998), PBS(2008) and PBS(2011)
Gov. Exp.	General Government Final Consumption, net of Health and Dev. Exp. (% of GDP)	May raises productivity through provision of technology embodied public goods	
Export	Export of Goods and Services (% of GDP)	Raise productivity by diffusion of knowledge and innovative ideas	SBP(2010)
Import	Import of Good and Services (% of GDP)	Help in introducing relative advance technology in domestic economy	
FA Share	Foreign Assistance in Projects (% of Total FA)	Substitute domestic finance and bridge gap between domestic finance demand and supply	
Privy	Domestic credit to private sector (% of GDP)	Help in financing transferring of technology	WDI (2014)
FDI	Foreign Direct Investment (% of GDP)	Transferring technology and Create knowledge spillovers	
Democracy	Institutionalized Democracy (from 0 to 10 Scale) (higher value means more democracy)	Captures Regime effect on productivity	Marshal et al (2012)

Source: *Author's compilation*

Chapter 3

Political Regime and Economic Growth: An Empirical Investigation for Pakistan

3.1.Introduction

The literature recognizes the role of institutions in economic growth.[58] Researchers have looked into how to determine the relationship between institutional development and economic growth. For instance, theoretical and empirical case studies by Acemoglu et al (2005) show that a fundamental cause of difference in economic development is difference in institutional performance. The argument is that economic institutions provide incentives to economic agents and shape economic outcomes, whereas political institutions set the stage. Rodrik et al (2004) establish the importance of institutions over geography and integration and find positive impacts on income. Their results indicate that the quality of institutions trumps everything else. Flachaire et al (2013) examine the role played by institutions in the growth process and confirm the Hierarchy of Institution hypothesis proposed by Acemoglu et al (2005). Persson and Tabellini (2006) analyze the role of political institutions and argue that it is too difficult to identify the impact of political regimes from within the cross-section variation, as the concept of democracy is too broad.

The term 'democracy' here refers to a form of government where recruitment of the chief executive is more open and competitive, with substantial constraints on the successful candidate.[59] It is a type of government where the executive is recruited through a competitive election process, with executive recruitment regulated by either

[58] For discussion and empirical purposes, this refers to growth of real GDP per capita.
[59] As defined by Marshal et al (2012).

a constitution or a set of rules and regulations, or both, and there is an accountability group whose power is equal to the executive; this means there is a good check-and-balance mechanism in the political system.

Democracy is widely considered a 'good' government system mainly because it protects the interests of electors; decisions are generally made by consultation and consensus; rulers or policy makers are more accountable to their electorate; people have freedom to express their opinions; and an inherent check-and-balance system requires that policies are more efficient and competitive. Freedom and protection of individual interests, in particular property rights, under a democratic system may foster a positive environment for long-term economic prosperity. However, there are some less positive features of this system. The system generally protects the interests of influential groups rather than ordinary people; fixed terms of government incentivize policy makers to focus on short-term policy gains rather than long-term policy outcomes; and it is difficult to build consensus between political leaders, which may result in political instability.

We systematically analyze whether the duration of a democratic regime matters for economic growth. The term 'duration' refers to the number of years a government lasts. A longer-duration government may put a country on a development trajectory, mostly because it has more time to pursue long-term goals. Leaders may choose appropriate policy options to achieve long-term objectives. A longer duration enables a government to achieve such goals by a persistent and consistent pursuit of policies. It also helps reduce uncertainty. Grilli et al (1991) argue that a short-term government is more likely to perform myopically and never take hard decisions. To improve the economy, a government must pursue medium- to long-term policies persistently and

take hard decisions. A government's longer duration makes this more possible. If government is short-lived or changes frequently, it will not attempt long-term development projects. Prevailing uncertainty engendered by short-lived governments may reduce the exploitation of investment opportunities and discourage the start of new business ventures. All these factors may put hurdles in the path of development.

Whether democracy is better for economic growth is a hot topic in the literature. The consequences of democratic system for economic prosperity are still debatable on theoretical grounds. Empirical evidence is also inconclusive. Sirowy and Inkeles (1991) provide three alternative perspectives for linking democracy with development: conflictual, compatible and skeptical.

Followers of the conflictual perspective[60] offer a development first hypothesis. They claim that democracy puts hurdles in the way of development and they argue that an authoritative government is needed in the initial stages to suppress political and civil rights and to foster the growth process. Once the economy has achieved a sufficient amount of development, democracy can be revived.

Followers of the compatible perspective[61] claim exactly the opposite, claiming a need for democracy first. They argue that basic civil and political rights are necessary to express public opinions and demands for action. These freedoms provide an incentive for saving and investment that are key drivers for growth.

The third group is very skeptical about a systematic link between democracy and development (see Pye, 1966). They suggest that additional factors such as industrialization (capital vs. intensive labor), the political party system (multi- vs.

[60] See De Schweinitz (1964) and Rao (1985) for instance
[61] See King (1981) and Kohli (1986) for instance

two-party system) and how the state intervenes in the market, should also be considered, while claiming a direct link between economic development and democracy.

There are researchers who offer empirical evidence in favor of a democracy-led growth hypothesis, while others fail to find such evidence. For instance, Barro (1991), Scully (1988 & 1992) and Roll and Talbott (2003) describe positive impacts of democracy on economic growth, while Alesina and Rodrik (1994), Sirowy and Inkeles (1991), Keech (1995) and Persson and Tabellini (2006) claim negative impacts of democracy on economic growth. Interestingly, Przeworski and Limongi (1993), Acemoglu (2008) and some others fail to find any causal relationship between income and democracy.

Very few studies have been done for the Pakistan context. Zakaria and Fida (2009) found a weak negative relationship between per capita economic growth and democracy. Mahmood et al (2010), found a significant positive impact relationship between democracy and economic growth. Amir-ud-Din et al (2008) failed to find any relationship between democracy and income inequity. Iqbal et al (2008) analyzed macro-economic performance and various political regimes of Pakistan in a descriptive manner. They conclude that Pakistan's macro-economic performance has been better under an autocratic regime.

Pakistan's strategic geo-political position has been important for the international community in general and for the US in particular. Bordering resource-rich countries like Afghanistan and Iran, Pakistan is considered a gateway to Central Asia, and its economic and political situation matter in the maintenance of regional peace. If

Pakistan becomes economically and politically weak, it will be a threat for regional and US security, because a weakened state and poor economic situation may promote extremism and terrorism. A proper understanding of Pakistan's political and economic conditions is important for an understanding of the prospects for future development. We make an effort in this regard. Further, as regards competing theoretical arguments, inconclusive empirical results on a regime-growth nexus and the lack of studies on Pakistan motivate us to systematically examine empirically Pakistan's political arena and its impact on economic growth and income inequality.

Our main contributions are three folds: first, in terms of scope, our analysis has a much wider scope: we analyze the regime effect on economic growth, productivity growth and growth of income inequality. We also utilize a longer time series covering the sample period of 1950 to 2010. Second, we analyze regime-wise duration effect on output growth, productivity growth and income distribution. Third, we develop an instrument for addressing the endogeneity of regime and its duration.

This study progresses as follows: the next section briefly examines Pakistan's political economy in the context of its political and macro-economic situation and the strategies adopted by each regime; Section 3.3 reviews evidence related to the democracy-growth nexus; the empirical methodology and data descriptions are explained in Section 3.4, followed by an interpretation of estimated results and discussion in Section 3.5 and 3.6 respectively; and the final section sums up the discussion.

3.2. Pakistan's Political Economy

Since Pakistan became an independent state, it has experienced frequent switches in political regime. In its total life span of 67 years, Pakistan has experienced three military coups d'état[62] and twenty-eight changes of prime minister. Table 3.1 shows the type of regime[63] and its duration. It is evident from Table 3.1 that the duration of each autocratic regime has been longer than that of each democratic regime, ranging from eight (R–VI) to thirteen years (R–II).

The political history shows that during the country's first democratic regime (R–I), Pakistan faced many challenges. At the time of separation from India, Pakistan had insufficient economic and political bases. Leaders tried hard to settle the newborn country down politically and economically, without significant success, which may be attributed to a shortage of trained human, physical and financial resources. During this period, Pakistan experienced war over the Kashmir region; Pakistan's founding father Muhammad Ali Jinnah passed away; and the first prime minister, Liquat Ali Khan, was assassinated while on a political campaign. These factors and others made Pakistan politically unstable. Weak and unstable democratic forces and the strengthening of the military in the initial period sowed the seeds for autocracy. In October 1958 there was a military coup and General Ayub Khan took charge of the country (see Chapter 3 for full details).

The second regime (R–II) is considered a golden age in Pakistan's economic history, when the economic situation improved and industrialization began. During this period

[62] First in October 1958, second in July 1977 and third in October 1999

[63] For this study, we refer to a democratic or autocratic regime on the basis of the head of the state. If the head of the state was military, we class it as autocratic; otherwise, democratic.

Pakistan enjoyed an average 6% GDP growth, the lowest-ever inflation rate (3.5%), and the highest-ever investment rate of 22.5% (see Table 3.2).

The third regime (R–III) was also important in Pakistan's political history, when the country experienced a period of democracy. Although that period lasted only five and a half years, it included major policy shifts.[64] The Constitution was promulgated in 1973, the economy moved toward socialism, all major industries were nationalized and labor was given substantial power as trade unions were established. On the economic front, Pakistan's average GDP growth was 3.5% with agricultural growth of 1.4% and manufacturing growth of 4.1%. As well as reasonable economic growth, the economy experienced its highest-ever inflation rate of 14.6% and the average investment share declined from 22.5% to 19.3%.

Internal political conflicts and strong opposition to socialism set the stage for another military coup. The second period of martial law began in July 1977 (R–IV), when General Zia-ul-Haq took charge and introduced new economic and political policies. His major policies included Islamization of the economy, reversal of socialism, denationalization of some industries, promotion of corporate structures and involvement in the Afghan war. The economic situation remained stable during this period; the economy enjoyed 6% average growth, coupled with agricultural growth of 3.9% and manufacturing growth of 8.4%. The inflation rate remained modest and the average investment share in GDP improved slightly.

After the death of General Zia-ul-Haq in a mysterious plane crash, Pakistan again turned to democracy (R–V). Note that this democratic regime lasted considerably

[64] It is debatable whether the policy shift was good or bad for the economy.

longer than the previous democratic period (11 vs. 6 years), but Pakistan remained politically unstable. In its eleven years, the government changed hands four times because of either corruption or economic mismanagement. This is remembered as the lost decade because during this period Pakistan's economic performance remained poor.

In October 1999, Pakistan experienced a third military coup; General Pervaiz Musharaf overthrew the government of Mian Nawaz Sharif to become Chief Executive. He decentralized political power from the provincial to the local level but strengthened the federal government. The nation's economic performance was good. In 2005, Pakistan was named the second fastest-growing Asian economy (after China) and the stock market was higher than in the last two decades. After the US calamity of 9/11, Pakistan received tremendous remittances from abroad and foreign aid from the US. Foreign exchange reserves, which stood at US$7 billion in 1999, climbed to US$13 billion in 2006. During this time Pakistan experienced a massive earthquake in the northern area which inflicted massive infrastructure damage. The average GDP growth was 4.7% and the inflation rate was 5.3%.

The last democratic regime (R–VII) faced considerable challenges, ranging from terrorist attacks, energy crises and street crime to natural disasters such as massive flooding. Inflation rose to over 25% and average growth fell to 3.7% (manufacturing 2.7%, agriculture 2.2%). The energy crisis was at a peak, substantially hurting Pakistan's economy. The global recession also played a negative role in the process of development. The government continued to receive a substantial amount of US aid to play an active role in US-led War against Terror.

3.2.1. Political Regimes and Economic Strategies

It is generally recognized the democratic regime may outperform than non-democratic regime mainly because the policy adopted by democratic regime are more pro-market. In this section, we review the policies adopted by Pakistan's democratic and autocratic regimes. Table 3.3 categorizes regime's policies by its type.

Between 1940 and 1960 the global strategy for development was Import Substitution. The democratic regime followed the trend and adopted Import Substitution (IS) as its strategy for development. The main policy tools adopted by that regime in implementing an IS strategy were licensing, quantitative restrictions and exchange controls (Lewis, 1969). With its licensing system, the regime managed to control import volume, composition and sources (Naqvi, 1964), and this was the most effective policy tool adopted by that regime (Ahmad and Amjad, 1984). The volume of total imports substantially declined from $593 million in 1952 to $208 million in 1956. In terms of composition, the import of manufactured goods decline by 78%, food and beverage by 84% and raw materials by 52.4% during the said period. While the rationale behind the IS strategy was to initiate and build industrialization, the main emphasis was on the establishment and protection of the consumption goods sector rather than of capital goods (see Figure 3.1). Zaidi (2005) argues that the reasons for this protection of consumption goods were twofold: that the demand for consumption goods in the 1950s was higher than for investment goods; and that protection was provided mostly to those industries where demand had been previously met by imports from India.

The main economic strategies of the first military regime were a Green Revolution, Land Reforms and Export Promotion. Under the Green Revolution, enhancement of irrigation facilities, cheap credit for modernization and access to new agriculture technologies were ensured. It was implemented in two phases: the first (1960-1965) provided improved and enriched irrigation facilities and the second (1965-1970) delivered new agriculture technology[65] (Zaidi, 2005). The military regime used subsidized agriculture credit as a major policy tool for implementation of the strategy.

Under Land Reform a ceiling was placed on landholdings, tenants became owners and legal protection to tenants was granted. However, in practice, we observe a partial improvement in landholdings. For instance, under the 1959 Land Reform regulations, only 15% of total declarants were affected by the ceilings on individual holdings. Within the 15% affected declarants, the regime was able to resume 35% of the area of affected declarants. The reason for not getting full benefits of land reform may be attributed to implementation delay and loopholes in the land reform regulations. For example, the land reform regulations allowed landholders to transfer a part of land to dependents and other members of their families and it exempted numerous categories.

The third main policy tool of Export Promotion strategy as adopted by the military regime was the launch of a Bonus Voucher Scheme (BVS) and introduction of Free List. Papanek (1967) argued that these policy tools can be marked as "an important shift from direct to more flexible and market-orientated indirect controls". Lewis (1969) pointed out that liberalized import policy allowed market forces to determine the commodity composition of import. Under the BVS, exporters earned bonus

[65] Includes provision of high-yield seed varieties, chemical fertilizers, pesticides, tractors and other agriculture machinery

vouchers in addition to rupee-converted amounts. These bonus vouchers could be used as license to import certain goods or could be sold on an official market. The BVS minimized government intervention in determining the amount and composition of import. It provides flexibility in the system.

Socialism was the core strategy of the second democratic regime. The regimes main policy tools were nationalization, devaluation, abolition of the bonus voucher scheme and labor and land reform. The regime nationalized major units of the industrial, banking, insurance and education sectors, believing that this would protect small and medium entrepreneurs from giant industrialists and transfer economic power from a few hands to the masses. However, the statistics showed that the regime failed to achieve its intended objectives. During the period 1971 to 1979, the household income distribution deteriorated as evident from Table 3.4 that household Gini co-efficient increased from 0.33 to 0.37. Similarly, the ratio of top 20% to lowest 20% also escalates from 4.9 to 6.2. Another repercussion of nationalization policy was decline of private sectors confidence – private sector investment in the large scale manufacturing sector declined by 45 percent during the democratic regime tenure.

Under land reform, a relatively low ceiling on landholding was imposed and land was re-distributed to tenants without charge. However, the success rate for this regime land reform was substantially lower than the previous military regime. The regime successfully resumed 0.481 million hectares area as compared to 1.022 million hectares of 1959 which constitutes only 47%. In terms of total farm area of the country, the regime resumed only 0.001%. Only 1% of the landless tenants and small owners got benefits by these policy measures.

The democratic regime liberalized trade by abandoning the bonus voucher scheme and import restriction for over 300 commodity items. The regime lowered tariff rates on intermediate and capital goods. However, it seems that due to its nationalization policy, the regime could not encourage private sectors for investing in long-term projects as the share of import of capital goods declined from 33.7% in 1971 to 21.4% in 1975. The regime also devalued the currency by 131%.

The focal strategies of the second military regime were Revival of the Private Sector and Trade Liberalization. The military regime rejected the legacy of the previous regime and decided to revive the private sector. It initiated numerous policy steps for involvement of the private sector in the production process, for example de-nationalizing some agro-based industries and small engineering units. It also opened some basic and heavy chemical and cement industries to the private sector, issued tax holidays and rebates on export earnings, and reduced the interest rates for investment in agriculture and industry. As a consequences of these policy measures, the share of public sector in total industrial investment declined from 72.74% in 1979 to 18% in 1988 (see Table 3.5).

The military regime initiated a corporatization program to promote the corporate culture and introduced legislation to regulate the activities of the corporate sector. Perhaps the most prominent strategy of this regime was that of Islamization,[66] introducing business avenues based on Islamic principles.[67] Various policy steps were taken to liberalize trade, the major ones being introduction of a flexible exchange rate,

[66] Islamization is a process where economic activities are based on Islamic rules.
[67] Islam prohibits the taking of interest and interest-based activities; he introduced the concept of financing purely on a profit and loss basis.

removal of most non-tariff barriers and a reduction in the number of import-banned goods.

Structural Adjustment was the prominent strategy of the third democratic regime, which took advice from the IMF and World Bank and launched a structural adjustment program with major policy steps to further enhance the role of the private sector. These policy steps included abolishing the import licensing scheme; empowering the private sector to choose the level and location of investment; opening up new business avenues which were previously in the public sector, such as provision of utilities, power generation, transport, communications and banking; providing incentives such as tax holidays, exemption from indirect taxes like custom duties, import surcharges and sales tax; and easing regulations on foreign loan procedures and hiring of foreigner employees (World Bank, 1993).

Beside this structural program, the democratic regime also initiated a privatization program and financial sector reform. The government adopted two types of privatization strategy: i) fully privatizing state-owned enterprises[68] and ii) reducing government ownership of large industrial units and banks.[69] Financial sector reform included institutional strengthening of financial intermediaries; measures to manage and recover non-performing loans; debt management reform; monetary management measures; and exchange and payment reform.

The third military regime adopted a Market Oriented strategy whereby it reduced the government role and increased private sector participation. Key policy tools included privatization, deregulation, globalization and higher education reform. The regime

[68] Such as National Motors; Pak Suzuki Company; Zeal Pak Cement; D.G. Khan Cement
[69] Such as Mari Gas (20%); Kot Addu Power Company (36%); PTCL (12%); Allied Bank Ltd (51%); Muslim Commercial Bank (75%); Banker Equity (51%).

undertook massive privatization of state-owned enterprises. The major focus was on the financial sector, but privatization in sectors such as energy, fertilizers, telecommunications, cement and chemicals also took place. Deregulation of economic and business activities[70] was another policy tool adopted by this regime. On the eve of worldwide globalization, the regime further liberalized trade by removing subsidies and non-tariff barriers, reducing tariffs, increasing market access, upgrading technology and skills and eliminating tariff walls for various commodities. The regime initiated various reforms,[71] the most prominent of which were in higher education, when universities were given free internet access and more funds to increase R&D (research and development) and to produce more scholars and researchers.

3.3. Political Institutions and Economic Growth: Evidence from the Past

This section reviews past evidence about the relationship between political institutions and economic growth. It falls into two parts: the first reviews linkages between institutions and economic growth in general, while the second reviews specific forms of political institutions and their relationship with economic growth.

3.3.1. Political Institutions and Economic Growth

There is growing concern over the notion that institutions are important determinants of economic growth. Whether institutions are really deep causes for economic growth has been widely debated in the literature. There are two distinct and opposing groups: those who consider institutions as a root cause of economic growth (see Keefer and

[70] This includes deregulation of imports and pricing of petroleum products, agricultural prices, allowing the private sector to import DAP and fertilizers and to export wheat and wheat products.
[71] This includes reforms in the judiciary, police, civil service and procurement.

Knack, 1997; Hall and Jones, 1999; Acemoglu et al, 2001; Rodrik et al, 2004) and those who refuse to accept institutions as a deep cause (see Glaeser et al, 2004).

The main argument for the institutional role is that political institutions or political agents determine the path of the economy by pursuing appropriate policies. If political institutions are strong enough to protect property rights, incentivize savings and investment, and distribute resources in an effective and efficient manner, there is no reason to believe that economy will remain poor. The following literature reviews briefly shed light on the growing debate.

Rodrik et al (2004) establish the importance of institutions over geography and integration and find a positive impact on income. Their results indicate that institutional quality trumps everything else. Flachaire et al (2013) discuss the role played by the institution in promoting economic growth and argue that political and economic institutions have played very different roles in the growth process, saying that political institutions are deep causes of economic growth, whereas economic institutions are not. They observe that political institutions have played a key role in determining to which regime a country belongs, whereas economic institutions have played an important role in determining the growth rate *within* the regime.

Marsiliani and Renstrom (2007) analyze the theoretical impact of political institutions on economic growth by using an overlapping generation model. They examine two structures of decision-making institutions: the first, that all decisions are made by parliament; the second, that ministers are authorized to set spending policies independently (called power separation). They highlight the importance of predicted population growth in the decision-making process and show that economic growth is

lower under power separation mainly because of production inefficiency. Eicher and Leukert (2009) examine parameter heterogeneity in noted approaches for linking institutions with economic performance. They found that parameter heterogeneity is strong enough to require a new set of instruments for control. Further, they confirm a Hierarchy of Institutions hypothesis and show that economic institutions have a significant role in output levels when political institutions are used as instruments for economic institutions.

Pereira and Teles (2010) looks empirically at how political institutions cause economic growth at different stages of democracy and development. Their results suggest that political institutions can be considered as substitute for democracy to accelerate economic growth. Further, they highlight the importance of political institutions in economic performance during transitory periods of democracy and in countries where ethnical fractionalization is very high.

In contrast to the above, some do not recognize institutions as deep causes for economic growth. Glaeser et al (2004) re-examine the role played by political institutions in the growth process and deny the proposition that institutions *cause* economic growth. They examine various proxies used in literature for political institutions, and claim that these are not good proxies to measure the inherent characteristics of polity. Institutional proxies must capture two features: (1) constraints on government; and (2) durable features of political settings. However, proxies used in growth literature mostly do not possess these two features. They argue that institutional proxies commonly used in literature measure outcomes rather than government constraints. They further challenge methodologies used to establish a causal relationship between incomes and institutions, and argue that some IV

techniques are imperfect. They demonstrate that under a simple OLS technique, human capital appears a good predictor of economic growth, whereas institutions are not. They suggest that most countries may get rid of poverty and escape the underdevelopment trap simply by applying a dictator's policies and may subsequently improve institutional quality.

3.3.2. Democracy-Growth Nexus

The literature shows growing concern about the causal relationship between democracy and economic growth. Proponents of democracy-led growth argue that democratic governance performs better because of its accountability and check-and-balance mechanisms. Democratic government opts for those policies which promote development because they are accountable to the electorate. These proponents argue that under a democratic system, government also faces tremendous opposition if their policies are not up to the mark. They believe that these characteristics constrain democratic government not to abuse executive powers, and the recurring election process makes them more accountable and responsible for their actions.

Empirically, the results are inconclusive. Some studies support a democracy-led growth approach, others not. Interestingly, some studies fail to find any systematic correlation between regime type and income growth. The following discussion briefly reviews some empirical work in the literature.

Work by Kormendi and Meguire (1985) is considered pioneering in developing non-economic determinants for growth. They use civil liberty as a proxy for political freedom and find a growth-enhancing effect of political freedom via investment. Scully (1988) analyzes the institutional framework of a political system and its impact

on efficiency and growth. He finds a significantly positive effect of politically open economies, claiming that they show a growth three times as fast, and two-and-a-half times as efficient, as economies with curtailed freedoms. Mbaku and Kimenyi (1997) re-examine the Kormendi and Meguire (1985) data and find more support for a positive correlation between political freedom and economic growth. Feng (1997) examines how democracy and political stability interact with economic growth; he observes an indirect positive impact of democracy on economic growth. Leblang (1997) finds a robustly significant positive impact of democracy on growth. Jalles (2010) examines the democracy-growth relationship and finds a significant positive impact. He concludes that electoral democracy itself fosters per capita growth, and he failed to find any evidence for the fostering of growth under autocracy. Knutsen (2011) empirically investigates how democracy promotes the protection of property rights; he finds a positive impact of democracy on property rights.

Persson and Tabellini (2006) empirically analyze the role of political institutions on the development process. He argues that it is too difficult to identify the impact of political regimes from within the cross-section variation, as the concept of democracy is too broad. Kurzman et al (2002) fail to find evidence for a direct effect of democracy on growth, but do find a positive indirect effect via investment and government expenditure. Plumper and Martin (2003) provide some explanations for the prevailing hypothesis of an inverted u-shape relationship between the level of democracy and economic development. They argue that any given political regime uses government spending as an instrument to get political support. They use theoretical and empirical evidence to show that autocratic regimes overspend on rent-seeking action, whereas democratic regimes overspend on public goods for political

support. Thus, neither type of regime achieves an appropriate rate of economic growth like countries whose level of democracy is at an intermediate level. They further argue that causation runs from political participation to government spending to economic development.

Landau (1986) examines the growth effect of various types of government expenditure. He uses models to capture political situations before and after a country becomes independent. He finds a negative impact of democracy on growth. His results support the prevailing idea that "democracy is an expensive luxury for poor countries." Barro (1996) investigates a potential democracy and growth relationship. After controlling for growth effects by initial level of GDP per capita, human capital, rule of law, government consumption and the free market, he observes a weak negative relationship between democracy and economic growth. He further investigates the existence of a non-linear relationship between a democracy and economic growth, and suggests that a low level of political freedom promotes economic growth, but a moderate level of political freedom seems to slow down income growth.

Dick (1974) fails to note any clear-cut growth-enhancing effect of either an authoritarian or a non-authoritarian regime. He concludes that regime choice varies between countries and also depends on the prevailing national circumstances. Marsh (1988) fails to find any systematic relationship between democracy and economic growth. Acemoglu et al (2008) deny the prevailing belief of a causal relationship between per capita income and democracy, and argue that per capita income is not an important determinant of democracy. They argue that in the presence of a simultaneous bias between interest variables, most cross-sectional studies show a

strong association between them. However, this association seems to disappear once such bias is controlled for. The use savings rates and trade-weighted world income as instruments and fail to find any strong evidence for causality running from income to democracy. From a theoretical and conceptual framework, they show that both income and democracy evolve jointly.

3.4. Data and Methodology

We employ the following econometric model for determining the impact of a political regime and its duration on economic growth and productivity growth:

$$\Delta\, ln(Y)_t = \beta_0 + \beta_1 ln\,(Duration)_t + \beta_2\, ln(Democracy)_t + \beta_3 \ln(Democracy)_t * \ln(Duration)_t + \beta_4 lnGDPC_{t-1} + \beta_5 \Delta ln(Control)_t + \varepsilon_t \ldots\ldots\ldots (1)$$

Here, Y is either economic growth measured by log difference of real GDP per capita or productivity growth measured by log difference of total factor productivity, $Duration$ represents the durability of a given political regime, $Democracy$ is a measure of political regime. Controls are the lag level of per capita GDP($GDPC_{t-1}$); human capital measured by school enrollment rate at middle level ($School$); health expenditure relative to GDP ($Health$); general government consumption share relative to GDP (Gov); government spending on development projects ($Dev.Exp.$); domestic credit to private sector relative to GDP ($Privy$); openness ($Open$); share to foreign assistance in development projects ($FA\ Share$) and foreign direct investment relative to GDP (FDI); t is the time index and ε is the error term, which is assumed to be white noise. Note that all model variables are in natural logarithm.[72] The

[72] Some observations in democracy variable are zero. To make logarithm possible, we took log of (1 + Democracy).

controls specified at equation (1) are our core specifications and will always be used in estimations; however, we also use other controls to validate our estimated results.

The parameter β_1 estimates the average impact of duration on economic growth; however it does not distinguish whether duration of democratic or autocratic regime matters for economic growth. One way to estimate duration impact for a given regime is to add an interaction term between democracy and duration along-with two components in the model. If duration of a given regime matters for economic growth, then the coefficient associated with interaction term (i.e. β_3) will be significant and positive. To reduce the multicollinearity, the two component variables are generally centered by their respective means before calculating the interaction term. This does not change the coefficient estimates, its standard errors or covariance estimates of the model (Aiken and West, 1991; Gasiorowski, 1995).

We use an annual time series for the last six decades (1950-2010). One common problem associated with a time-series regression is that a disturbance term may be correlated with past values. In this case, estimated coefficients are still unbiased but their standard errors are not efficient. Consequently, inferences drawn from these standard errors are invalid. One possible remedy is to re-estimate coefficients by the Generalized Least Square (GLS) or the Feasible Generalized Least Square (FGLS) method.[73] We verify the validity of serial correlation assumption by the Durbin Watson H – test before finalizing the estimation of a model. If test statistics are significant, the models are re-estimated by FGLS.

[73] For further detail see Gujarati and Porter (2009), p. 442-448

One empirical difficulty is the measurement of a political regime as dichotomous (Gasiorowski, 1995; Barro, 1996; Perroti, 1996; Brown, 2000; Reiter and Stam, 2003; Rodrik and Wacziang, 2005; and Persson and Tabellini, 2006) or as continuous variable (Brunetti and Weder, 1995; Ades and Tella, 1999; Acemoglue et al, 2005 & 2008; Blattman and Miguel, 2010; Ashraf and Galor, 2013; Gassebner et al, 2013). The main disadvantage of considering political institutions as being of a dichotomous nature is that it only distinguishes a regime as democratic or non-democratic. It does not categorize a regime under varying degrees of democracy. By contrast, a continuous measure of political regime is generally based on an ordinal scale, enabling measurement of degree of political institution. On a continuous ordinal scale, it is easy to say that Sweden has more democracy than Mexico, and Mexico is more democratic than Chile (Bollen 1990). This study considers political regimes as continuous variables and measures on a continuous scale.

Our $Democracy$ variable is a composite weighted average index derived from three major components: (i) executive constraints; (ii) competitiveness and openness of executive recruitment; and (iii) competitiveness of political participation. First component measures the extent to which the head of the state consider preferences of others while making a decision. Second component captures the ways by which the chief executives occupy position. In other words, it measures regulation on chief executive recruitment process, the degree of competition among the potential candidates and the extent of opportunity available to politically active population. Last component measure the extent to which the political system enables non-elites to influence political elites in regular way. Thus, our $Democracy$ variable measures constraints and regulations on chief executive. Higher constraints and regulations may

make chief executives accountable to their electorates. This may reduce inefficiency in the system which in turns may promote economic growth. Similarly, these constraints and regulations may also bind chief executive to provide goods and services according to the preferences of their constituents. Appendix 3-A compares these three components between democracy and autocracy.

We measure *Democracy* on 11-point scale from 0 (no democracy) to 10 (full democracy). We obtained data on Democracy from the Polity IV project (Marshall et al, 2012).

The variable *Duration* captures regime durability and measures "*the number of years since last regime change.*"[74] The single greatest advantage of using the Polity IV project database is availability of data for a longer time, from 1800 to 2012. For country-specific time series analysis such as this study, that is a better choice. Another advantage is that the Polity IV measure of democracy incorporates institutional characteristics[75] of a given regime. Details of variables definitions, rationales and data sources are given in Appendix 3-B

3.4.1. Instrumental Variable

It is generally argued that democratic regime is more prone to economic growth because the rights of individuals, firms and investors are protected. In contrast, continuous economic recession may put pressure on a regime to transit from democratic to non-democratic. Thus, the political regime is endogenous. In case of endogeneity, least square estimator becomes biased and coefficients of interest cannot be estimated precisely. One possible way to get precise estimate is using instrument

[74] As defined on p. 17 of the Polity IV Project Data User's Manual.
[75] Such as 'openness and competitiveness of processes for selecting chief executives' (Knack, 2004)

variable technique. The condition for having a good instrument is that the proposed instrument should not have direct relation with the dependent variable (i.e. economic growth) but it will affect the dependent variable through the endogenous variable (i.e. democracy). We use two instruments to correct the possible bias of reverse causation: the first is amendments to the Constitution, as we developed for this study; and the second IV is past values of institutional variables.

Countries may amend their Constitutions to strengthen their institutions, particularly their political institutions. Khan (2004) recognizes government action to amend the Constitution as a democratic parliamentary function. Since independence, Pakistan has experienced three types of political system: Presidential, Semi–Presidential and Parliamentary. Figure 3.2 shows the type of political system along-with it timing.

Pakistan's first Constitution was promulgated in 1956 to introduce a parliamentary form of government. The first military ruler abolished this system in 1962 and introduced a Presidential form of government, giving the president more power. In 1973 a democratically-elected government re-introduced the Parliamentary system, delegating power to a prime minster. The second military ruler amended the 1973 Constitution and changed the political structure from a Parliamentary to a Semi-Presidential system by empowering the presidential office. This continued till 1997, when the democratic government re-introduced the Parliamentary form of government by amending the Constitution. In 2003 a third military government re-empowered the president and re-introduced the Semi-Presidential form of government by amending the Constitution. In 2010 a democratic government revived the Parliamentary form of government by again amending the Constitution.

This back-and-forth changing of the political system shows how political power struggles encourage an incumbent government to amend the Constitution and retain political power.

The main argument here is that the autocratic regimes used constitutional amendments as a tool for legitimize their tenure. It can be used as instrument for political institutions. Since these amendments directly affect the political institutions but have nothing to do with economic growth. We developed a dummy with value one for the years when the political system was changed through constitutional amendment and zero for other times. Besides the amendment dummy, we take advantage of time series analysis and use one year past score of democracy as additional instrument. The basic intuition behind using past realizations as an instrument for the present is that the past may affect the future but the future seldom or scarcely affects the past.

Similarly, duration of a regime may also be endogenous. We argue that longer duration is needed for pursuing policies consistently and presently. The consistent in policies may reduce uncertainty and encourage investment. It is more likely that higher investment increases the economic growth. On the other hand, higher economic growth may support a regime and regime may survive longer. In other words, higher economic growth may longer the duration of democratic regime. Thus, duration is endogenous.

To address this endogeneity issue, we estimate the likelihood of democratic regime by using the following probit model[76]:

$$Democracy_t = \psi_0 + \psi_1 School_t + \psi_2 Tax_t + \psi_3 Defense_t + \psi_4 Debt_t + \psi_5 L\&O_t + \psi_6 Open_t + \psi_6 AID_t + \varepsilon_t$$

Here $Democracy$ is a dummy variable whose value is equal to 1 if regime at time t is democratic and zero otherwise. $School$ denotes average number of years of schooling; Tax is tax revenue relative to GDP; $Defense$ is government spending on military relative to GDP; $Debt$ is total public debt relative to GDP; $L\&O$ is government spending on a law and order situation relative to GDP; $OPEN$ denotes the openness of the economy; AID refers to US total foreign assistance to Pakistan; the subscript t denotes a year ranging from 1950 and 2010, and ε is the error term that captures all other factors which have not been incorporated in our model, with the assumption that $E(\varepsilon_t) = 0$ for all t.

Once estimation is done, we predict the likelihood of democratic regime survival. On the basis of this likelihood we formulate a duration series by adding the cumulative probability. Let $\hat{p}_t$ represents the likelihood of democratic regime at time 't' and $\hat{d}_t$ is the predicted duration of a democratic regime at time 't'. We assign a value zero for the years when change of regime occurred (i.e. $\hat{d}_0 = 0$). The estimated duration for the subsequent years will be as follows:

$$\hat{d}_1 = \hat{d}_0 + \hat{p}_1,$$
$$\hat{d}_2 = \hat{d}_1 + \hat{p}_2$$

[76] We also estimate the coefficients by logit model and found that there is no systematic difference between these two alternative estimation techniques.

$$\hat{d}_3 = \hat{d}_2 + \hat{p}_3$$

$$\vdots$$

$$\vdots$$

We continue adding up the likelihood of democratic regime till the regime change. By definition the likelihood for autocratic regime survival is nothing but one minus the likelihood of democratic regime i.e. $1 - \hat{p}_t$. We follow the same process for estimating the duration of autocratic regime. We use the predicted value of duration as an instrument for our endogenous variable $Duration$.

3.4.2. Descriptive Statistics

Descriptive statistics of our sample are given in Table 3.6, with number of observations, mean, standard deviation and range for each variable. Between 1951 and 2010, Pakistan's average per capita income was US$1,258 (on purchasing power parity basis), with an annual average growth of 2.2%.

The average scores for democracy and autocracy on a 0-10 scale were 3.54 and 2.73 respectively. In terms of degree of political institution as measured by the average scores of democracy and autocracy, it seems that Pakistan's democratic institutions are relatively stronger than their non-democratic institutions. However, when we analyze the total duration of each regime, Pakistan spent more time under an autocratic regime (32 vs. 28 years). The average duration of a democratic regime was 1.8 years; the average duration for an autocratic regime was 10.6 years. The lesser amount of time under a democratic regime implies that, on average, no democratic regime completed its full tenure of 5 years but was dismissed in under 2 years. The substantially lower duration of democratic regimes also implies that Pakistan was politically unstable during the period under review. One possible reason for the non-

functioning of democratic regimes could be low average years of schooling (2.5 years).

3.5. Empirical Results

We begin our analysis by estimating equation (1) for the period 1951-2010. Table 3.7 shows the estimated impact of a democratic regime and its duration on economic growth. Columns (1 & 2) in Table 3.7 show the potential impact of democracy on economic growth; while columns (3 & 4) show the estimated impact of democracy on productivity growth. We fail to find any evidence of serial correlation in our models. Therefore, we estimate coefficients of column (1 & 3) by simple OLS. The coefficients of column (2 & 4) are estimated by instrumented variable two stage least square method (2SLS). The robust standard errors are reported in parenthesis. The bottom panel of the Table 3.7 shows diagnostic analysis of our estimated models. We prefer OLS estimates over 2SLS because the endogeneity test fail to reject the null hypothesis that 'variable are exogenous'. If variables are exogenous, OLS is efficient than 2SLS.

3.5.1. Economic Growth

Significance of the $Duration$ term in all models of Table 3.7 shows that duration matters for economic growth; it is positive and highly significant. The positive sign at column (1) implies that an additional year in one regime improves economic growth by around half percent. This supports our hypothesis that longer duration is beneficial for economic growth because if duration is longer, the regime can implement its policy consistently. The longer duration also reduces uncertainty and encourages investment.

In case of democracy, we get negative but significant sign. When we address the endogeneity problem and obtain the coefficient by two stages least square, the size of coefficient slightly improves. However, we fail to find any statistical difference between these two coefficients which may be interpreted as, in case of Pakistan, the political regime variable is not endogenous. The negative sign associated with the democracy variable imply that a higher degree of democracy reduces economic growth. Our results are consistent with Barro (1994), Persson and Tabellini (2006) and Zakaria and Fida (2009). The sample average score of democracy is 3.3 which imply that the quality of Pakistan's democratic institutions is well below the average score of democracy. Przeworski et al (1996) argued that the democratization process is less likely to be strong in countries whose per capita income is less than $2000. Pakistan's average per capita income is around $1250(in PPP bases).

One of the main arguments in favor of democratic regime is that democracy promotes economic growth because under democratic regime the rights of individuals and firms are more protected. The secure property rights encourage the investment behavior which promotes growth. However, in case of Pakistan we see a little evidence in favor of secure property rights. For instance, the adoption of nationalization program under the second democratic regime minimizes the investor confidence (see Section 1.4.3.1 for further details). Figure 3.3 plots a scatter between investment share and level of democracy. We can see that higher level of democracy fail to increase share of total investment as well as private sector investment. We also found that democratic regime not only shaken the domestic investors' confidence but also fail to improve foreign investors (see Figure 3.4).

The economy grows slower in democratic regime than autocratic regime may be due to loss of 'state autonomy'. Here we define the 'state autonomy' as the capacity of the regime in pursuing development policies in isolation of lobbying group pressure. In case of Pakistan, military is one of lobbying group. We have observed substantial influence of military in controlling the democratic affairs. For instance, in 1990s the frequent change of democratic regimes was mainly due to influence of military (see Section 1.4.5.1 for further details). One way to minimize military influence is to increase its share in total output. Figure 3.5 support our hypothesis. It shows that higher degree of democracy increases the government spending on military.

To test the hypothesis that duration of democratic regime matters for determining per capita income growth, the $Democracy$ variable is interacted with $Duration$. In column (1) of Table 3.7, we get a highly significant negative coefficient of interaction term. A negative sign associated with the interaction term suggest that at an average level of $Democracy$, another year in democracy reduces the per capita growth by half percent. Significantly positive individual term of $Duration$ and its significantly negative interaction with $Democracy$ shows that the effect of $Democracy$ variable dominates. The robust negative coefficient implies that, at least for Pakistan, longer-lasting democracy is harmful for economic growth. This result is not surprising; as discussed above, Pakistan's democratic regimes fail to provide an environment which is favorable for enhancing economic growth. When we estimate equation (1) by using instrument variable technique, we get almost similar coefficient but marginally lower significance. It is not surprising because if our suspected variables are in fact exogenous, then the 2SLS estimator is less efficient then the simple OLS. The

endogeneity test given at the bottom of the Table 3.7 shows that our suspected variables are in fact, exogenous.

The negative sign associated with a lag of GDP per capita confirms the convergence hypothesis and shows that the initial lower GDP per capita increases the future economic growth. Not surprisingly, higher school enrollment rates, and more government spending on development projects, all have a significant and positive impact on economic growth. The positive sign associated with these variables re-confirms importance of human capital and development of infrastructure in promoting economic growth.

Government expenditure growth has appeared to play a significant but negative role in the growth process. The coefficient is robust in both models. The negative sign supports the market economy hypothesis. One possible interpretation of the negative sign is that size of government matters. A large government may put hurdles in the way of an efficiently functioning market. Our empirical results suggest that a limited government is better for per capita income growth.

In Pakistan's case, we fail to find any significant role of FDI, financial development and trade openness in growth. One possible reason for this may be size. The average FDI value relative to GDP over the period in question is 0.6 percent. As to trade, over two-thirds of the Pakistan economy is closed. Around 60% of total exports comprise textile and textile-related goods; the other 40% comprise sports goods, surgical items, carpets and similar low-value items. Around 38% of import goods comprise food items, petroleum products and textile inputs. These figures explain partially the non-contribution of trade to economic growth.

We found significantly negative effect of growth share of foreign assistance in development project on economic growth. Since, it is a foreign assistance which can be supplement the domestic financial needs. Carefully examination of sample data shows that around 53 percent of total foreign assistance come on development projects and the supply of funds are very fragile. The share ranges from 20 percent to around 80 percent of total FA. In terms of growth, we observe a negative average growth over sample period. This uneven supply of funds and average negative growth may explain why we have robustly negative effect on economic growth.

Diagnostic tests confirm that the error term is not serially correlated and the model has sufficient explanatory power.

3.5.2. Productivity Growth

Column (3 & 4) of the Table 3.7 reports impact of democracy on productivity growth. We fail to find any significant impact of level of democracy on productivity growth. The negative sign imply that democratic regime in not effective in promoting the growth of productivity. As explained above, it seems that the democratic regime fails to provide an environment which is more conducive for productivity growth. In case of duration, we found positive but weak significant impact. The positive sign support our claim that longer duration is needed for pursuing policies consistently.

When we interact the $Duration$ with $Democracy$, we got negative sign. The coefficient is significant at 10 percent level. The significance level improves when we estimate the model by instrumental variable technique. However, the size of the coefficient remained the same. The endogeneity test fails to reject the null and confirms that in case of Pakistan, the institutional variables are not endogenous. The

interaction term imply that at an average level of democracy, additional year of democratic regime reduces the productivity growth by 0.2%. The marginal impact of duration is low. The result also shows that democracy effect dominates over duration effect.

We fail to find any significant impact of growth of health spending on productivity growth. The reason for getting insignificant growth impact may be related to its sheer size. During the last sixty years, the average growth of public health spending relative to GDP was around 4%. However, its growth remained volatile and showed a continuous declining trend.

The impact of general government spending on productivity growth is significant but negative. The negative sign indicates that a further increase in government spending reduces the productivity substantially. The significant negative sign support our earlier interpretation that government size matter. A larger size of government reduces the productivity. We do not see any significant difference between OLS and 2SLS estimates.

We found significant positive impact of growth of domestic credit to private sector on productivity growth. Positive sign re-emphasize the importance of financial sector in improving technology and innovation. Our estimate predicts that a 10 percent increase in domestic credit leads to around 8 percent productivity growth. This is a substantial impact. Significant positive impact on productivity growth but insignificant impact on economic growth shows the indirect channel of financial development. It implies that financial development foster economic growth through increase in productivity.

The growth of public spending on development projects appeared to be significant positive impact on productivity growth. Our estimate suggests that a one percent increase in development spending leads to one year ahead growth of productivity by 4%. This is a substantial impact and highlights the importance of development spending on productivity enhancing projects. We found significant reduction in the standard errors when we estimate the model by 2SLS. The improvement in the size of the coefficient shows that about 45 percent bias is corrected when we take into account the endogeneity issue.

We fail to find any systematic impact of growth of openness, foreign direct investment, share of foreign assistance on the growth of productivity. Diagnostic test shows that we do not have serial correlation problem, our instruments are valid and our explanatory variables reasonably explain variation in the productivity growth.

3.5.3. Sensitivity Analysis

For sensitivity analysis we have added more controls, re-measured the political regime in dichotomous and used different indicators for economic growth. The estimated results are reported at Table 3.8.

Columns (1) of Table 3.8 incorporate growth of market capitalization, utilization of agriculture land, inflation rate and average rainfall as additional controls. Inclusion of additional controls increases the explanatory power of model from 0.56 to 0.74. Interestingly, the presence of additional controls does not alter our conclusions, as neither sign nor magnitudes of coefficients associated with our variables of interest changed. However, the significance of $Democracy$ improves. It becomes significant at 5 percent level. The significant positive sign of $Duration$ shows the robustness of

our result and supports our hypothesis that duration matter for determination of economic growth. The interaction term remained highly significant but negative. It implies that higher duration under democratic regime reduces the economic growth.

In column (2) of Table 3.8 we consider democratic regime as a dichotomous in nature. We measure democracy as a dummy with a value of 1 when the chief executive assumes power through open competition and elections and of zero otherwise. We re-estimate democratic regime, duration and interaction effect on economic growth. We continue to get significant positive effect of duration and significant negative effect of interaction term on economic growth. However, re-defining democracy as dichotomous changes its sign. Our new estimate suggests that democracy foster economic growth. We reconcile this discrepancy as follows.

The dichotomous nature of regime shows whether a regime is democratic at a given point in time. This definition fails to capture the degree of democracy. For instance, in terms of dichotomous definition of democracy, in 2007, Pakistan and the US are both counted as democratic countries. However, when we compare the degree of democracy, we found a huge difference. In 2007, Pakistan has democracy score of 2 whereas the US has full democracy score of 10. Thus, the dichotomous definition of democracy fails to capture true effect of democracy on economic growth.

We also investigate whether our estimated results are sensitive to definition of economic growth. As a robustness check, we re-define economic growth in terms of real GDP per worker and real GDP, and report the results in columns (3) and (4) of Table 3.8. Estimated coefficients of the interaction term maintain its sign but marginally lower the magnitude and significance levels.

3.5.4. Democracy and Income Inequality

It is commonly argued that democratic governments are more egalitarian than autocratic ones. The rationale offered is that a prevailing inequity may encourage politicians to launch a political campaign. Democratic government is accountable to the electorate, so politicians generally make and try to honor promises. They adopt income-enhancing policies to improve income distribution. It is also argued that a democratic government enhances growth opportunities for their positive impact on income distribution. Income inequity is predicted to reduce under a democracy mainly because labor unions are permitted and individual rights are protected. Consequently, labor is more likely to get better wages and other benefits.

Recent theories predict a Kuznets-type non-linear relationship between democracy and inequality. It is argued that in a democracy, inequity first increases until it reaches a threshold, and thereafter starts to decline. Among the principal supporters of this theory are Acemoglu and Robinson (2000) and Bourguignon and Verdier (2000). Acemgolu and Robinson (2000) argue that at the pre-industrialization stage, an elite group accumulates wealth, which increases inequality. At a later stage, when the elite group has accumulated sufficient wealth, the process of transfer of wealth to a lower group begins, which reduces inequity.

Empirically, various studies support the egalitarian view of democracy. Chong and Calderon (2000) systematically investigate the linkage between institutional quality and income distribution, finding a significant and robust quadratic relationship between interest variables. Their results imply that for poor countries, the relationship between institutional quality and inequity is positive, whereas for rich countries it is

negative. Chong (2001) surveys empirical literature and establishes an empirical link between existing theories for democracy and inequality. He finds a non-monotonic relationship between democracy and inequity. By theoretical and empirical investigation, Chong and Gradstein (2007) establish a bi-directional causality between income inequity and institutional quality. They argue that weak institutional quality does not properly provide judicial protection to the poor, which reduces rent-seeking opportunities, as compared to rich elites which enjoy such opportunities. As a result, the rich-poor gap widens. Large income inequity may empower the rich to influence political institutions, which may further deteriorate their quality.

We use the following econometric model to analyze regime and duration effect on income distribution:

$$\Delta \ln(Gini)_t = \gamma_0 + \gamma_1 ln\,(Duration)_t + \gamma_2\, ln(Democracy)_t + \gamma_3 \ln(Democracy)_t * \ln(Duration)_t + \gamma_4 \ln(Income)_t + \gamma_5 \ln(Income)_t^2 + \gamma_6 ln(Control)_t + \varepsilon_t \qquad (2)$$

Here, $Gini$ is the growth of Gini coefficient, $Duration$ and $Democracy$ are the same as we defined in equation (1), $Income$ refers to real GDP, $Controls$ include average years of schooling, foreign direct investment relative to GDP, age dependency ratio and annual inflation rate, t refers to time and ε is disturbance term which is assumed to be white noise.

We estimate the equation (2) and report the results at Table 3.9. We found that regime duration also matters for income distribution. A longer duration of a regime reduces the growth of income inequality. Our estimate suggests that another year of a regime reduces the growth of Gini coefficient by 5.3 percent. We also found weak negative

effect of democracy on growth of Gini. However, when we interact the $Duration$ with $Democracy$, we found significant positive effect. Our estimate on interaction term implies that at least in the case of Pakistan, this contradicts the hypothesis that a democratic regime is more egalitarian. It may imply that Pakistan's democratic governments use their duration to strengthen the elite group so as to secure their political support.

Empirical results also support Kuznets' hypothesis of an inverted u-shape for income inequity, at least in a weak form. A positive sign associated with income and negative with its square show that income is non-linearly related with inequity. It increases initially with a rise in income but later starts to decline.

3.6. Discussion

Empirical results show that democratic regimes fail to play an effective role in economic process. This leads naturally to the question, why does this happen in Pakistan? Why is a longer duration of democracy harmful for income growth and inequality? After all, democrats are accountable to their constituents. In the following discussion we made an attempt to address these questions by shedding light on the Pakistan's educational level, culture and democratic systems. We also briefly review and discuss various strategies adopted by military rulers to prolong their tenure or power.

Pakistan's democratic governments have always been politically unstable. Since independence, not a single government up to 2007 has completed a five-year parliamentary tenure. Between 1947 and 2010, the prime minister of Pakistan has changed hands nineteen times for one reason or another (see Chapter 3 for further

details). The average duration of a democratic government is 1.8 years (with a minimum of 13 days[77]), whereas the average duration of an autocratic regime is 10 years (with a maximum of 13.2 years). It is clear that democratic regimes do not have sufficient time to devote to building good institutions, nor enough time to pursue a policy consistently and persistently. Ignorance about building good institutions and lack of policy persistence may explain why duration of a democratic regime has a negative but significant coefficient.

The number of political parties may explain political un-stability.[78] A multi-party election system spreads votes among the parties, and it is difficult for one party to get an absolute majority to form a government in its own right. Rather, a government is usually formed by a coalition. Under this system, a party may want to pursue its own objectives, which may conflict with its coalition partners' objectives. Differences in stakes and objectives force parties to bargain for compromise. As a result, budget resources are allocated on a political basis rather than on any economic justification. The result may be inefficiency.

This is what has been observed in Pakistan over the last six decades. The Pakistan People's Party (PPP) is one of the leading political parties, and has been in government four times: in 1970 (winning 27% of seats); in 1988 (45% of seats); in 1993 (43% of seats); and in 2008 (36% of seats). For government, a party must have a two-thirds majority in parliament; otherwise, it must join hands with other parties. The above results show that each time, PPP did not have a two-thirds majority, so needed to form a coalition for government, and did so. The case is similar for another

[77] Nurul Amin: in office from December 7, 1971 to December 20, 1971

[78] In October 2014 there were about 282 national and local political parties registered with the Pakistan Election Commission. However, 8 to 10 major national political parties are always active and are critical in the formation of a government.

major political party, the Pakistan Muslim League, which became the government twice in the 1990s. The average budget deficit of the coalition governments of the 1990s was 7%, while for the military regime of 2000, the budget deficit was just 4 percent. Comparisons of budget deficits alone do not completely prove our claims, but this comparison to some extent supports our argument.

Theory says that democracy promotes economic growth and distribution because political parties are accountable to the electorate. For Pakistan this argument is not necessarily valid. Political governments mostly enjoyed tenure without consideration of electoral consequences. The reasons are twofold.

First, Pakistan's literacy rate and overall education levels are very low. In 1951, the literacy rate was around 18% (see Table 3.10); this has been gradually increasing, but in 2010 was still only 57.7%. The average year of schooling in 1951 was about one year, which gradually increased to around 4 years in 2001. It implies that the average citizen has not even completed primary education. Further, over two-thirds of the populations still live in rural areas. A high percentage of rural residents coupled with low literacy and education levels may indicate that a substantial number of Pakistanis are unaware of the power of the vote and the consequences on the prevailing political system. Pakistan's politicians are very well aware of this situation and exploit citizen voting power.

Secondly, Pakistan has a strong family or kinship system (known as *Biradari* system). If the head of a *Biradari* decides to vote a certain way, other family members must follow suit regardless of whether the prospective candidate is capable. Failure to obey *Biradari* advice can have severe consequences. Ahmed (2008) analyzed the impact of

the *Biradari* system on voting behavior and concluded that "*Biradari* seems to be stronger than political fidelity." Shawar and Asim (2012) examine voting preference on the basis of the *Biradari* system and find that over 55% prefer to vote on the basis of the *Biradari* system.

Another powerful class which influences the voting system resembles the feudal system (the *Zamindar*). If the *Zamindar* nominates someone for an election, the peasants must follow his advice or face severe consequences. The existence of these people make politicians accountable to powerful groups rather than to the ordinary citizen.

By contrast, to legitimate and prolong the military regime, Pakistan's autocrats adopted market-oriented policies. The first military ruler, General Ayub Khan, in his early years of government, soon realized the importance of finance for the development of the industrial and agriculture sectors. He set up two important financial institutions, the IDBP (Industrial Development Bank of Pakistan) and the ADBP (Agriculture Development Bank of Pakistan) in the early 1960s, to service the growing financial needs of the industrial and agriculture sectors.

The IDBP provides medium-term to long-term loans for green and brown industrial projects, and offers advice on technical, managerial and financial matters to customers. It also provides guidelines on establishing new industrial projects. The ADBP plays the same role in the agricultural sector. As a result, domestic loans to the private sector rose from 11.1% of GDP in 1960 to around 30% in 1972.[79] The third military regime strengthened the financial sector, improved banking governance structure,

[79] Figures are from the World Bank's World Development Indicator (web-page).

privatized the earlier nationalized banks and made it easier for foreign banks and branches to open in Pakistan. Consequently, the financial sectors were boosted and started to cater to the growing needs of the private sector.

To protect the rights of investors, in 1969 the first military regime promulgated the Securities and Exchange Ordinance. In 1984 the second military regime promulgated a Companies Ordinance. This new legislation protects equity investors and creditor rights, promotes corporate structures and enable healthy growth of the business sector. In 1970, to monitor monopolist activities and promote a competitive domestic market environment, a Monopolies and Restrictive Trade Ordinance was promulgated by the first military government. This legislation was principally to establish a Monopoly Control Authority (MCA) to administer the law, with provisions for conducting inquiries into market power concentration, monopolies and restrictive trade practices. It also contained provisions for advising individuals, corporate entities and businesses about banned business activities and to promote competition. In 2007 the third military regime, converted the MCA into the Competition Commission of Pakistan, with an extended and updated mandate.

Industrialization, corporatization and Islamization were other tools used by military governments to prolong tenure of power. The first military ruler promoted capitalism with free market economy principles. He drew up five-year development plans which helped boost private investment. This resulted in the industrial value relative to GDP increasing from 15.5% in 1960 to 23.2% in 1971. Later Bhutto, a democratic government leader, aborted Ayub's state capitalism policies and introduced socialist policies, one of which was industrial nationalization; all industries were handed over to government control. His policy destroyed investor confidence in the business sector.

The second military leader countered this by initiating a corporatization program to promote the corporate sector and develop the private sector. In 1984 he promulgated the Companies Ordinance to regulate the corporate sector. He also introduced the concept of Islamic economics and legislated to promote Islamic finance principles. The third military ruler established a regulatory body (SMEDA: Small and Medium Enterprises Development Authority) to further develop the industrial sector and promote small and medium enterprises.

The military government also decentralized power to the local level as a strategy to strengthen their government and to obtain public support. Ayub introduced the concept of 'basic democracy' with the promulgation of the Basic Democracies Ordinance (1959) and the Municipal Administration Ordinance (1960). The main aim was to establish a stronger link between the government and the people. He established local self-governing bodies and units to run local matters; but as it eventuated, the local government system was in practice controlled by bureaucrats through the offices of the Commissioner or his Deputy.

In 1980 General Zia promulgated the Local Government Ordinance to empower local and provincial governments by delegating some power from the federal government to the provinces. In 2000 the third military government promulgated another Local Government Ordinance, by which certain provincial functions were delegated to the local level. Kang and Arshad (2012) argue that the apparent intention of all three military governments was to introduce a form of so-called democracy, while in practice it was in all cases a strategy to legitimize and prolong their governments.

3.7. Summary and Conclusion

Whether democracy is better for economic prosperity is widely debated in the literature. Competing theoretical arguments and inconclusive empirical research motivate us to re-examine the relationship between a political regime and economic growth. Recognizing Pakistan's geo-political importance in the South Asian region, an attempt is made to determine the effect of democracy on per capita GDP using Pakistan's time series data for the last six decades (1951-2010).

We start our analysis by briefly reviewing Pakistan's political and economic situations since independence. Pakistan has remained politically unstable, having experienced three military coups, giving military regimes that each lasted for at least 8 years, while growth remained volatile during each regime. Simple statistics show that, on average, Pakistan has performed better on the economic front during each autocratic regime. The question then arises: why is this so? A systematic analysis is then carried out to determine regime effect at both micro and macro levels. For the macro level, per capita GDP growth is used as an indicator for economic growth; income inequity is used to determine the regime effect at the micro level.

It is postulated that a longer duration of a given regime makes it more possible to build economic as well as political institutions. An econometric model is designed for empirical validation of this postulate, recognizing a growing concern that political institutions are deep determinants of economic growth as well as functions of wealth. An attempt is made to deal with the endogeneity issue.

Econometric findings support our claim that longer duration of a regime fosters the economic growth. This finding is robust to various specifications. However, we do

not find an empirical support on democracy-led growth hypothesis. Our analysis shows that an increase in democracy level reduces the economic growth. A possible explanation is that democratic regimes failed to build institutions that are necessary for economic growth. When democracy is interacted with duration, we find robust negative impact on economic growth. We interpret this result as democracy effect dominates over duration effect.

Why are autocrats effective in Pakistan? A review of the autocratic regimes shows that the military rulers to some extent try to protect property rights and pursue good economic policies persistently and consistently to legitimate and prolong their regimes. They use industrialization, corporatization, privatization and decentralization of powers to the local level as strategies to strengthen government. Democratic governments are consistently politically unstable, using resources to get political support and strengthen elite groups.

In conclusion, our findings show that duration of a regime matters but only as an auxiliary. If a democratic regime fails to provide environment which is conducive for economic growth, then further increase in democracy level may impede the economic growth and income distribution.

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Table 3.1: Pakistan's Political History

Regime	Type of Regime	Duration (Period)	Duration (Years)
R – I	Democratic	1947 – 1958	11
R – II	Autocratic	1958 – 1971	13
R – III	Democratic	1971 – 1977	06
R – IV	Autocratic	1977 – 1988	11
R – V	Democratic	1988 – 1999	11
R – VI	Autocratic	1999 – 2007	08
R – VII	Democratic	2007 – 2013	07

Note: *Democratic regime is defined as when chief executive assumes political power through open competition and election. Source: www.na.gov.pk (accessed on July 20, 2013).*

Table 3.2: Pakistan's Macroeconomic Situation

Regime	GDP per capita (US$)	Growth (%)			Inflation[b] (%)	Investment Share[a] (% of GDP)
		GDP[a]	Agri.[b]	Manuf.[b]		
R – I (1947 – 1958)	630	2.3	-	-	-	7.3
R – II (1958 – 1971)	748	6.0	5.1	9.9	3.5	22.5
R – III (1971 – 1977)	987	3.5	1.4	4.1	14.6	19.3
R – IV (1977 – 1988)	1232	6.0	3.9	8.4	7.3	20.2
R – V (1988 – 1999)	1636	4.4	4.5	4.8	10.0	18.3
R – VI (1999 – 2007)	1870	4.7	3.2	8.1	5.3	15.2
R – VII (2007 – 2013)	2236	3.7	2.2	2.7	12.8	15.9

Note: *'a' data contains from 1951 to 2010; 'b' data contains from 1960 to 2012; Source: Heston et al (2013) and World Bank (2013)*

Table 3.3: Political Regime and Policy Matrix

Regime Type/ Policy Type	Democratic Regime	Autocratic Regime
Pro – Market	• Tariff Reduction (D-II, D-III) • Land Reform (D-II) • Abolished Export Bonus Voucher Scheme (D-II) • Abolished Import Licensing (D-III) • Private Sector Autonomy (D-III) • Removal of Subsidies (D-III) • Deregulation (D-III)	• Ease of quantitative restriction – Free List for imports (M-I, M-II, M-III) • Introduction of Export Bonus Voucher System (M-I) • Land Reform (M-I) • Corporatization (M-II) • Islamization (M-II) • Introduction of Flexible Exchange Rate (M-II) • Privatization (M-III) • Deregulation (M-III) • Reduction of Subsidies (M-III)
Anti - Market	• Import Licensing (D-I) • Quantitative Restriction(D-I) • Exchange Rate Controls (D-I) • Nationalization (D-II) • Devaluation (D-II) • Agriculture Support Price (D-II, D-III, D-IV) • Indirect Taxation (D-III)	• Subsidized Agriculture Credit (M-I) • Agriculture Support Price (M-I) • Controlled Interest Rate (M-II)

Note: *D-I refers to first democratic regime (1947-1958); D-II, second democratic regime (1971-1977); D-III, third democratic regime (1988-1999); and D-IV refers to fourth democratic regime (2007-2010). Similarly D-I refers to first military regime (1958-1971); M-II, second military regime (1977-1988); and M-III refers to third military regime (1999-2008).* ***Source:*** *Author's compilation.*

Table 3.4: Income Distribution under 2nd Democratic Regime

	Household Gini Co-efficient	Household Income Shares			Ratio of Highest 20% to Lowest 20%
		Lowest 20%	Middle 60%	Highest 20%	
1970-71	0.33	8.4	50.1	41.5	4.9
1971-72	0.345	7.9	49.1	43	5.4
1979	0.373	7.4	47.6	45	6.1

Date Source: Pakistan Bureau of Statistics (1998)

Table 3.5: Share of Public Industrial Enterprises in Total Large-scale Manufacturing

Years	Employment Share (%)	Value added (%)	Public sector share in total industrial investment (%)
1979	14.47	7.12	72.74
1980	14.34	14.55	65.25
1981	15.24	12.27	58.01
1982	16.51	13.28	52.08
1983	14.82	13.90	48.29
1984	16.36	11.81	44.56
1985	-	-	31.38
1986	-	-	30.38
1987	-	-	21.64
1988	-	-	17.85

Source: Zaidi (2005), table 7.5 (p.117)

Table 3.6: Descriptive Statistics

Variable	Unit	Obs.	Mean	Std. Dev.	Min	Max
GDPC	US$ (PPP)	60	1,258	513	617	2,297
GDPC Growth	% age	60	2.2	3.0	-3.2	12.4
Democracy	Scale (0 to 10)	56	3.54	3.40	0	8
Autocracy	Scale (0 to 10)	56	2.73	2.95	0	7
No. of years in Democracy	Years	28	1.79	3.43	1	5
No. of years in Autocracy	Years	32	10.67	2.51	8	13
School	Thousand	61	2,032	1,652	250	5,445
Yr_Sch	Years	61	2.51	1.35	0.98	5.53
Health	% of GDP	61	0.57	0.27	0.05	1.19
Dev. Exp.	% of GDP	61	9.76	4.48	3.00	20.97
Govt.	% of GDP	61	9.56	2.08	6.15	14.78
Open	% of GDP	61	31.08	3.23	23.01	38.01
FDIY	% of GDP	61	0.60	0.80	0.01	3.78
Privy	% of GDP	51	24.06	3.88	11.15	29.84
FA Share	% of Total	50	52.51	15.94	19.46	78.36
Depend	% of Working Population	51	84.40	6.75	65.76	90.60

Note: *Detail of variables is at Appendix 3-B*

.

Table 3.7: Regime's Duration Effect on Economic and Productivity Growth

	Economic Growth		Productivity Growth	
	OLS	**2SLS**	**OLS**	**2SLS**
	(1)	**(2)**	**(3)**	**(4)**
Democracy	-0.006[c]	-0.008[b]	-0.002	-0.004
	(0.003)	(0.003)	(0.004)	(0.004)
Duration	0.006[a]	0.006[a]	0.003[c]	0.003[b]
	(0.002)	(0.002)	(0.002)	(0.001)
Democracy*Duration	-0.005[a]	-0.005[b]	-0.002[c]	-0.002[b]
	(0.001)	(0.002)	(0.001)	(0.001)
$GDPC_{t-1}$	-0.283[b]	-0.268[c]		
	(0.103)	(0.150)		
School	0.127[b]	0.120[c]		
	(0.048)	(0.070)		
Δ Health	-0.024	-0.025	0.000	-0.011
	(0.022)	(0.019)	(0.016)	(0.014)
Δ Gov	-0.081[a]	-0.081[a]	-0.073[a]	-0.073[a]
	(0.019)	(0.017)	(0.025)	(0.023)
Δ FDI	0.003	0.003	0.005	0.004
	(0.003)	(0.003)	(0.003)	(0.003)
Δ Privy	0.052	0.047	0.076[b]	0.077[a]
	(0.035)	(0.029)	(0.033)	(0.029)
Δ Open	-0.002	-0.005	-0.002	-0.006
	(0.034)	(0.031)	(0.041)	(0.039)
Δ Dev. Exp_{t-1}	0.040[b]	0.043[b]	0.040[c]	0.058[a]
	(0.016)	(0.021)	(0.021)	(0.019)
Δ FA Share	-0.024[b]	-0.024[a]	-0.021	-0.017
	(0.009)	(0.008)	(0.013)	(0.011)
Constant	1.076[a]	1.024[c]	-0.002	-0.001
	(0.374)	(0.542)	(0.011)	(0.010)
Diagnostic				
D-Watson	1.93		1.92	
Endogeneity Test (p-value)		0.43		0.76
Overid Test (p-value)		0.60		0.16
R^2	0.56	0.54	0.31	0.33
N	45	44	45	44

Note: *Dependent variables are real GDP per capita growth and total factor productivity growth. Robust standard errors are in parenthesis. All variables are in natural logarithm except duration variable. Estimations are based on annual time series for the period from 1951 to 2010 except 1969 – 1972 because data is missing for polity variables. For Model (2&4), coefficients are obtained from two stages least square (2SLS) where democracy and duration are instrumented with amendment dummy, predicted value of duration and past lags of democracy. D – Watson refers Durbin Watson values after model transformation. For 2SLS, endogeneity test refer to p – value for Wooldridg's (1995) robust score test with (H_0: variables are exogenous). Overid test refer to p – value of Sargan's (1958) for 2SLS (H_0: Instruments are valid). See Appendix 3-B for variables detail. a (p<0.01); b(p<0.05); c(p<0.1)*

Table 3.8: Sensitivity Analysis – Regime's Duration Effect with Alternative Specification

	Per Capita Growth (1)	Per Capita Growth (2)	Per Worker Growth (3)	GDP Growth (4)
Democracy	-0.007[b]	0.030[c]	-0.002	-0.006[b]
	(0.003)	(0.018)	(0.002)	(0.003)
Duration	0.006[a]	0.004[b]	0.003[c]	0.004[b]
	(0.001)	(0.002)	(0.002)	(0.002)
Democracy * Duration	-0.006[a]	-0.009[a]	-0.003[c]	-0.003[b]
	(0.001)	(0.003)	(0.002)	(0.002)
Controls	Yes	Yes	Yes	Yes
D-Watson				
R^2	0.74	0.69	0.65	0.58
N	45	45	45	45

Note: *Dependent variable at column (1) and (2) is real GDP per capita growth rate. Dependent variable at column (3) is real GDP per worker growth rate .Dependent variable at column (4) is real GDP growth. Robust standard errors are in parenthesis. We use the same controls as we use in Table 3.7. In column (1) we use growth of market capitalization, utilization of agriculture land, inflation and average rainfall as additional regressors. In column (2) we define democracy as a dichotomous variable whose value is equal to 1 if regime is democratic and zero otherwise. Estimations are based on annual time series for the period from 1951 to 2010 except 1969 – 1972 because data is missing for polity variables. See Appendix 3-B for variables detail. c(p<0.1); b(p<0.05); a (p<0.01)*

Table 3.9: Regime's Duration Effect on Income Distribution

	FGLS
Duration	-0.053[a]
	(0.014)
Democracy	-0.036[c]
	(0.019)
Democracy x Duration	0.033[a]
	(0.010)
Income	4.526[c]
	(2.397)
Income Square	-0.104[b]
	(0.049)
Controls	Yes
Diagnostics:	
D – Watson	1.86
R^2	0.73
N	38

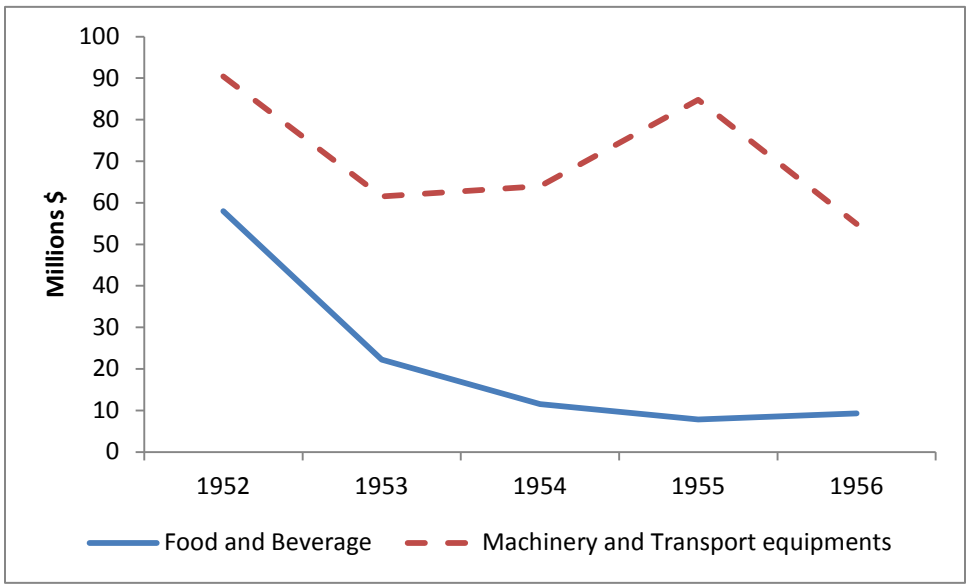
Note: *Dependent variable is growth of Gini coefficient. Robust standard errors are in parenthesis. Estimations are based on annual time series for the period from 1963 to 2005. For correction of autocorrelation, coefficients are estimated from feasible generalized least square method (FGLS). Income refers to ln(GDP). Controls include ln(Yr_Sch), lag of ln(fdiy), Δln(depend), and inflation. D – Watson refers Durbin Watson values after model transformation. See Appendix 3-B for variables detail. c(p<0.1); b(p<0.05); a (p<0.01)*

Table 3.10: Literacy Rate, Educational Level and Rural Population

Census Year	Literacy Rate (% age)	Average Years of Schooling	Rural Population (% age)
1951	16.4	0.98	82.26
1961	16.3	1.19	77.49
1972	21.7	1.69	74.59
1981	26.2	2.22	71.70
1998	43.9	3.67	67.48
2010	57	5.53	64.70

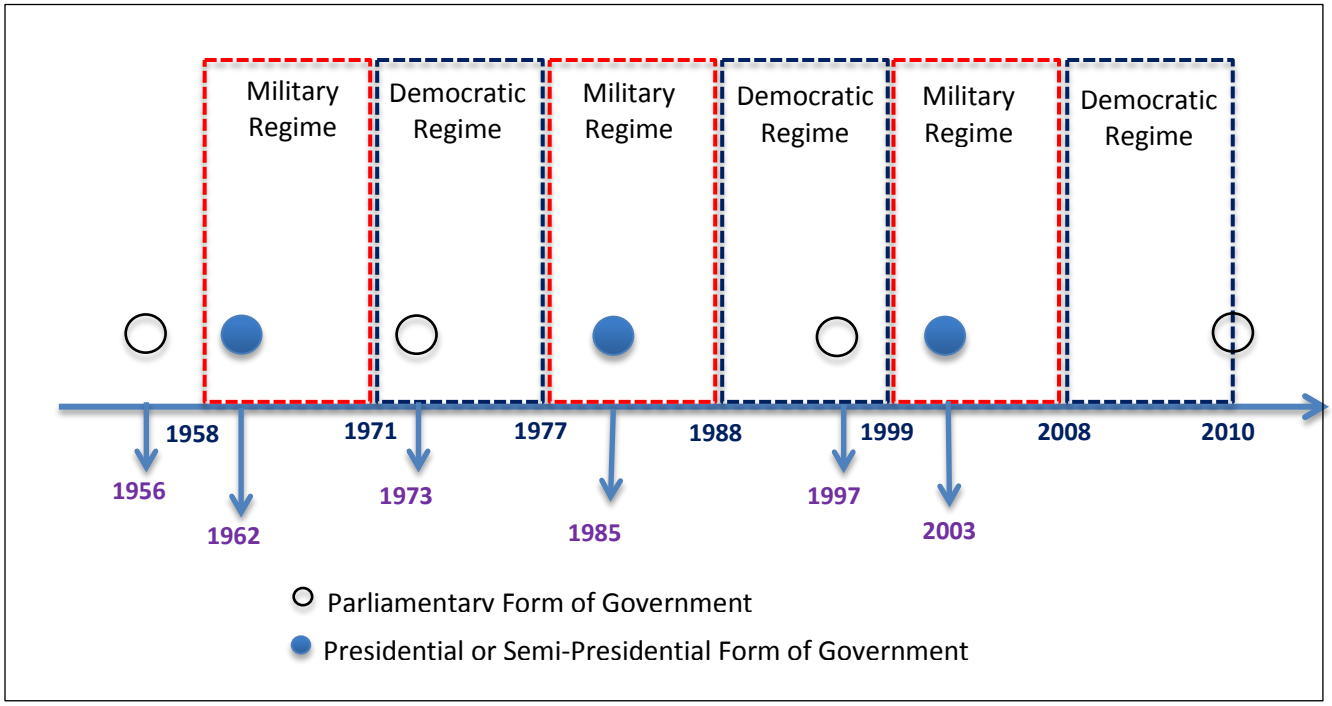
Data Source: *Literacy Rate – UNESCO; Years of Schooling – Barro and Lee (2013); Rural Population – SBP (2010)*

Figure 3.1: Trend of Import of Principal Commodities



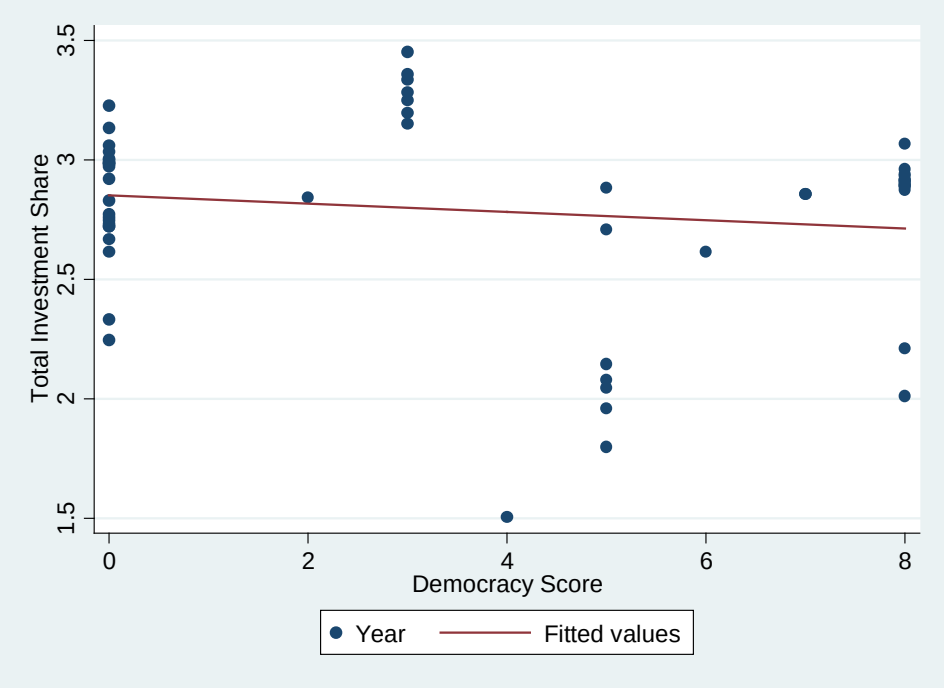
Data Source: State Bank of Pakistan (2010)

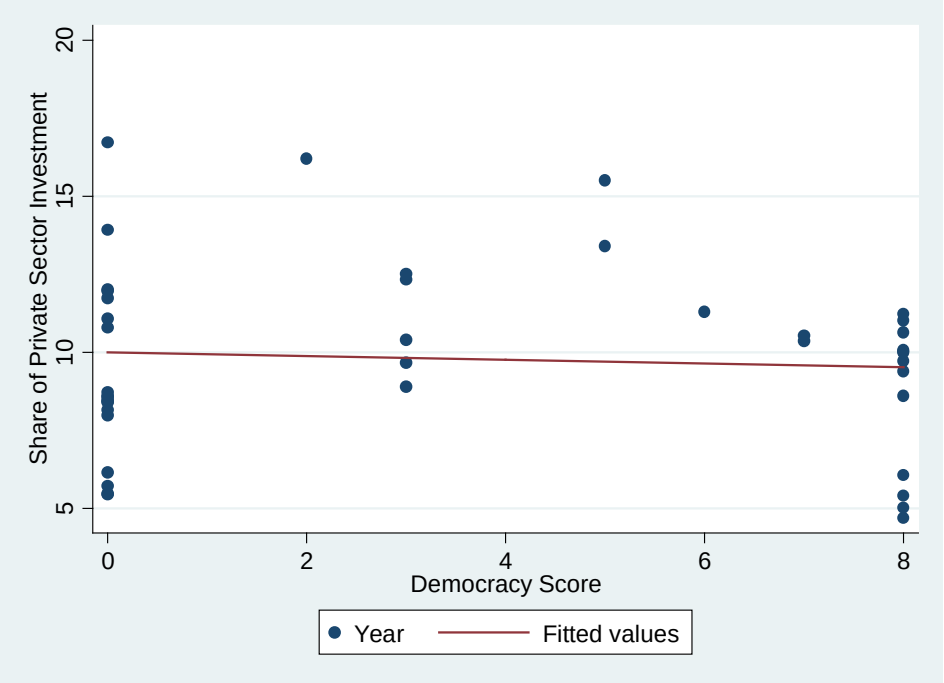
Figure 3.2: Parliamentary, Presidential or Semi-Presidential form of Government



Source: *Author's compilation*

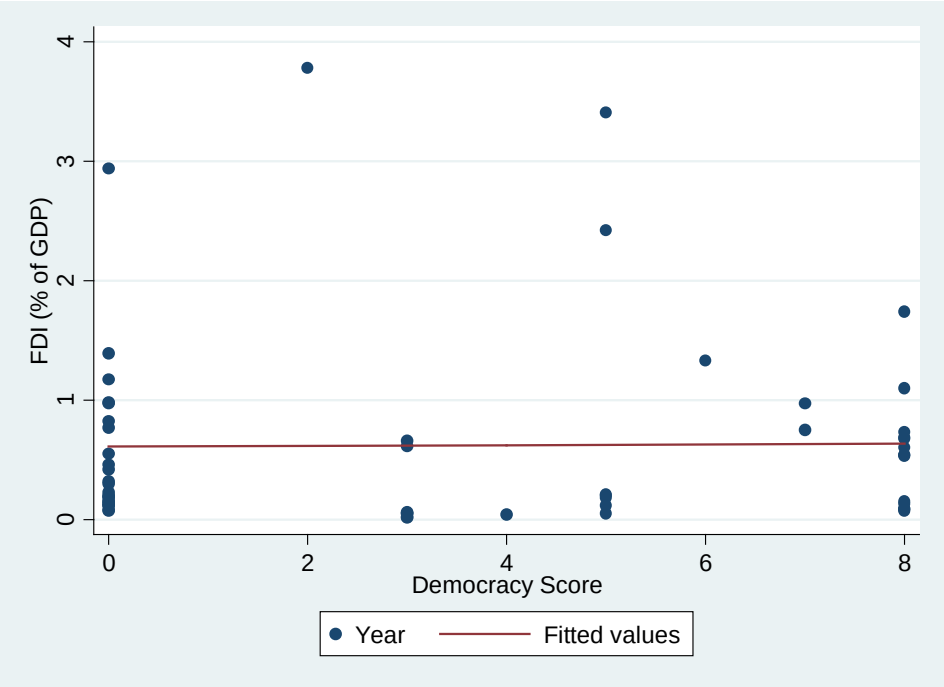
Figure 3.3: Investment Share and Institutionalized Democracy





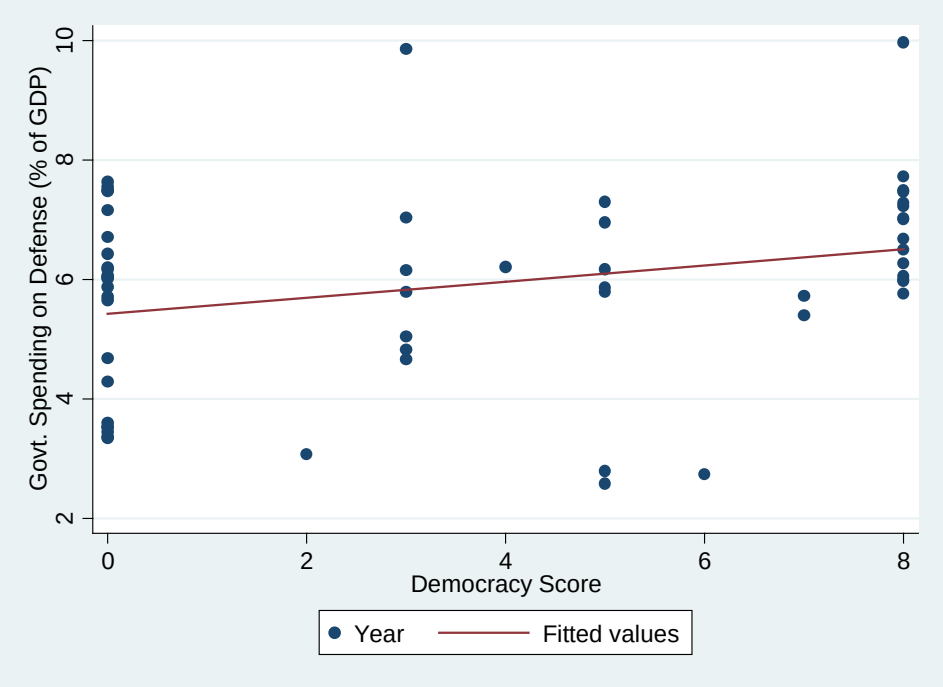
Note: *Democracy score shows the degree of democracy. Higher value means more democracy. Total investment is the share of total investment in GDP.* ***Data Source:*** *Democracy – Marshal et al (2012); Investment - Heston et al (2012)*

Figure 3.4: Foreign Direct Investment and Institutionalized Democracy



Note: *Democracy score shows the degree of democracy. Higher value means more democracy.* ***Data Source:*** *Democracy – Marshal et al (2012); FDI - WB (2013)*

Figure 3.5: Government Spending on Military and Institutionalized Democracy



Note: *Democracy score shows the degree of democracy. Higher value means more democracy.* ***DWeeata Source:*** *Democracy – Marshal et al (2012); Defense spending – State Bank of Pakistan (2010)*

Appendix 3-A: Political Spectrum

1) Chief Executive Recruitment

	AUTOCRACY	DEMOCRACY
Regulation	Unregulated	Regulated
Competition	Selection	Election
Openness	Closed	Open

2) Independence of Executive Authority

	AUTOCRACY	DEMOCRACY
Executive Constraints	Unlimited Authority	Executive Parity

3) Political Competition and Opposition

	AUTOCRACY	DEMOCRACY
Regulation of Participation	Unregulated	Regulated
Competitiveness of Participation	Repressed	Competitive

Source: Information extracted from Marshall et al (2012)

Appendix 3-B: Variable Definitions

Variable	Definition	Rationale	Data Source
GDPC	PPP Converted GDP Per Capita (*Laspeyres*) at 2005 Constant Prices	Dependent variable; widely accepted as good proxy for Economic Growth	Heston et al (2012)
$(GDPC)_{t-1}$		Captures 'catch-up' effect	
GINI	Estimate of Gini index of inequality in equalized (square root scale) household disposable (post-tax, post-transfer) income	Dependent variable; captures income inequality	Solt (2009)
TFP	Total Factor Productivity Index	Dependent variable, measures productivity	Author's compliation
DEMOC	Institutionalized Democracy (*from 0 to 10 Scale*)	Measures the strength of democracy	Marshal et al (2012)
DURATION	Regime Durability defined as "*Number of years since the most recent regime change*"	Measures the duration effect of a given regime on growth	
SCHOOL	School Enrollment at Middle Level *(in thousands*)	Measure the stock of 'human capital'	SBP (2010)
HEALTH	Health Expenditure as % of GDP	Measures the quality of 'human capital'	
Yr_Sch	Average Years of Schooling	Measure the stock of 'human capital'	Barro and Lee (2013)
GOVT	Net Government Consumption Share relative to GDP *(in % age)*	Measure fiscal policy	Heston et al (2012)
OPEN	Openness – sum of import and export relative to GDP *(in % age)*	Measure trade policy	Heston et al (2012)
FDI	Foreign Direct Investment *(millions of US$)*	Measure FDI policy	WB (2013)
PRIVY	Domestic Credit to Private Sector *(% of GDP)*	Measure Financial Policy	WB (2013)
INF	Inflation Rate (% annual)	Measure macro-economic condition	SBP (2010)
DEPEND	Age Dependency Ratio *(% of working population)*	Measure family structure	SBP (2010)
Dummy	Amendment Dummy (=1 if amended)	Instrument for institutional variables	Author

Source: *Author's Compilation*