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Changing Bank Lending
Behavior and Corporate
Financing in Asia:
Some Research Issues

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CHANGING BANK LENDING BEHAVIOR AND CORPORATE FINANCING IN ASIA—SOME RESEARCH ISSUES

EMMA XIAOQIN FAN AND AKIKO TERADA-HAGIWARA

December 2003

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FOREWORD

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ABSTRACT

This paper seeks to outline a number of issues relating to banking lending and corporate finance that deserve further research attention. The main purpose is to identify research issues and raise questions, rather than to propose solutions and answers. Specifically, the issues identified fall into the following five broad categories: (i) reasons for bank lending changes, (ii) substitutes for bank lending, (iii) implications for firms, (iv) implications for banks, and (v) implications for the financial and corporate structures. Research on these and other issues can shed light on likely directions of financial sector reforms in Asia.

I. INTRODUCTION

After weathering a number of adverse shocks over the past few years, economic growth in most Asian economies has regained momentum. This general revival has been mainly supported by growth of exports, consumption, and government spending. Investment growth, however, has remained subdued in many economies. Concomitant to slow investment growth, banking lending growth has been weak, and in some cases negative, in some crisis-affected economies. In economies that are not directly affected by the crisis such as Peoples' Republic of China (PRC), overall investment has been brisk accompanied by strong credit expansion, prompting concerns about possible economic overheating. At the same time, however, private sector entities, especially small and medium-size enterprises (SMEs) have continued to experience chronic difficulties in obtaining bank credit.

Restricted bank lending has far-reaching consequences for corporate financing. Firms can suffer from a credit crunch if bank lending falls short of demand, which curtails investment growth, and affects output growth and employment. Some have argued that contractions in bank lending played an important role in the 1990-1991 recession in the United States and the 1991-1996 recession in Japan (Stanton 1998). Asian financial systems are predominantly bank-dominated, with bank lending playing a crucial role in allocating resources and funding investment. There are concerns that weak bank lending will hinder economic performances in some Asian economies.

There have been other dynamic changes taking place in the realms of bank lending and corporate finance besides changes to credit growth rates. For example, some preliminary evidence indicates that banks are shifting attention from large firms to small and medium-size firms (Kim 2003, Molnar 2003a and 2003b). On the other hand, large corporations are increasingly using corporate bonds other than bank loans. The experiences of more advanced countries demonstrate that emerging corporations' shift to capital markets is likely to take place as part of the process of economic development. Thus, the financial crisis may have triggered a process that would have eventually occurred as companies grow to benefit from the lower costs and higher flexibility offered by capital markets.

The shift of bank lending to SMEs and the increased reliance of large firms on capital markets can enhance economic performance. However, the transition process is also fraught with risks and difficulties. In particular, the possibility of accumulating nonperforming loans (NPLs) may increase as banks are forced to move to more risky customers, impairing the functioning of the banking system. Japan's experience has demonstrated just how damaging this process can be for the banking sector and the whole economy.

Understanding the causes and consequences of changing bank lending behavior and corporate financing in Asia requires a comprehensive examination of both the banking and corporate sectors.

Sound bank and corporate performance go hand in hand. For instance, over reliance on (short-term) bank loans is considered one of the major reasons for corporate vulnerability in Asia, while highly indebted corporate sectors were a major contributing factor to the Asian bank crisis (Krueger and Yoo 2001). The widespread bank failures and corporate bankruptcies of the 1997 Asian financial crisis clearly demonstrated the nexus between banks and firms.

Examining the dynamic changes taking place in bank lending and corporate financing together will allow us to explore an array of relevant policy issues. Understanding these issues should help governments formulate policies conducive to economic growth and stability, and poverty reduction. It is widely accepted that the financial sector plays an important role in efficiently allocating resources and promoting growth. Through affecting economic growth, financial development has an important impact on poverty reduction. Financial development also influences poverty through other direct channels. A lack of access to formal financial services is particularly severe among the poor. Furthermore, financial sector collapse often affects the most vulnerable and poorest people, thereby increasing poverty levels. When financial crises occur and lenders become more risk-averse, small firms or low-income households are the first to be rationed from access to credit. Poverty can rise sharply and remain high for some time following a crisis. The fiscal costs of bank insolvency, which represent injections of public funds, must be covered by tax increases, expenditure reduction, or inflation, all of which hit low-income households hard (World Bank 2000). The Asian financial crisis clearly demonstrates linkages between the financial sector, economic growth, and poverty.

This paper seeks to outline a number of issues relating to banking lending and corporate finance that deserve further research attention. The main purpose is to identify research issues and raise questions, rather than to propose solutions and answers. Given the complexities and interlinks between various factors, issues identified in the paper are by no means exhaustive.

Specifically, the issues identified fall into the following five broad categories:

- (i) *Reasons for bank lending changes.* What caused weak bank lending growth in a number of Asian economies in recent years?
- (ii) *Substitutes for bank lending.* What substitutes to bank lending have emerged for firm financing? What are the impediments to their development? What are the implications of developing or not developing these substitutes for the corporate sector, banks and financial sectors, and for economies as a whole?
- (iii) *Implications to firms.* Have firms suffered credit crunches? What are the implications of changes in bank lending behavior for firms, particularly their capital structure, cost of capital, investment, profitability, and ownership characteristics? Are large and small firms affected in different ways? Distinguishing large and small firms is particularly important due to the different form of financial services that they require.
- (iv) *Implications for banks.* How have changes in corporate financing and bank lending affected the banking sector? In particular, are banks lending more to SMEs? What benefits and risks do these changes pose for banking sectors?
- (v) *Implications for the financial and corporate structures.* What strategic directions should governments take to build sound financial sectors that are in keeping with the changes taking place? What changes are conducive to long-term growth, and what new impediments and potential risks are forming? What specific policies are needed to

enhance the positive changes already under way, to initiate new positive changes, and to solve or mitigate problems that are occurring?

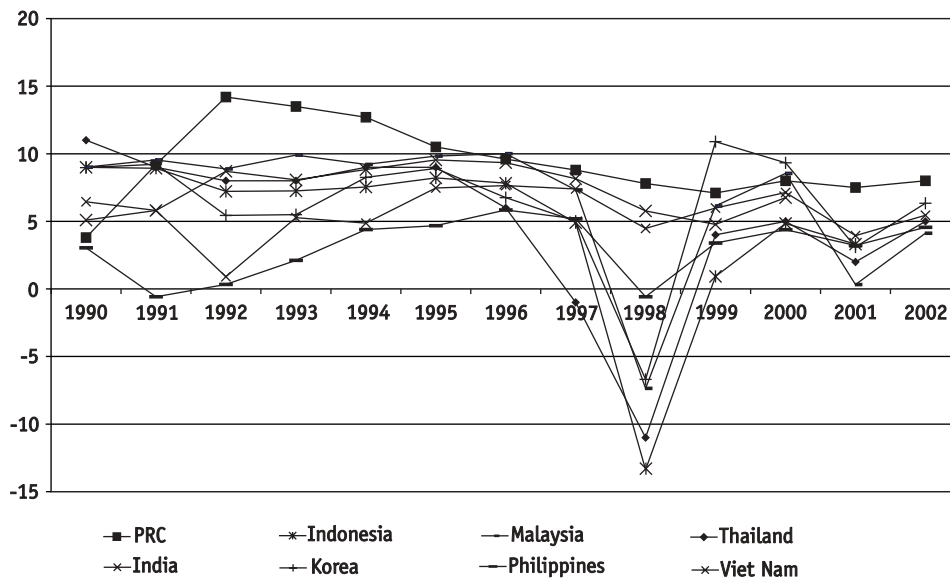
Section II reviews recent bank lending and economic performance in selected Asian countries. Section III examines issues surrounding changing patterns of bank lending and corporate financing, and Section IV offers some preliminary conclusions.

II. RECENT ECONOMIC PERFORMANCE AND BANK LENDING BEHAVIOR IN ASIA

A. Economic Performance

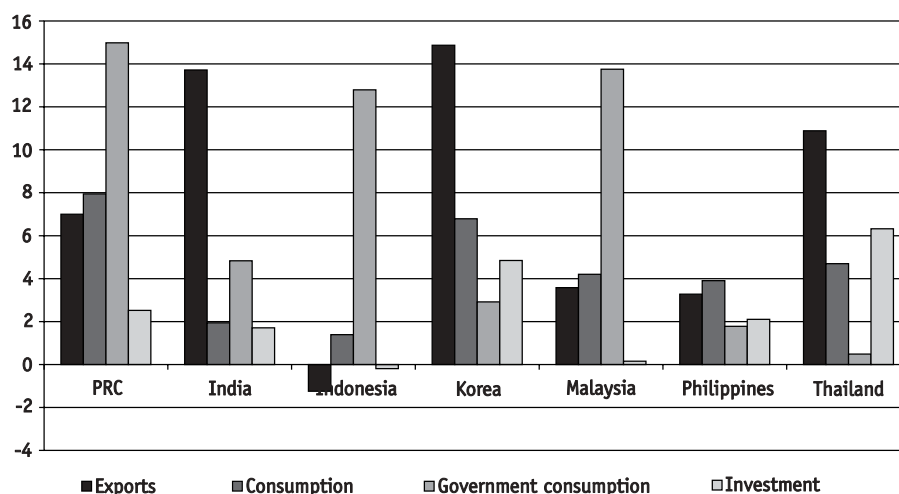
Economic performance has varied considerably across Asian economies. While growth rates in the PRC and India have held up well since the mid-1990s, a number of East and Southeast Asian economies were hit hard by the financial crisis, with severe GDP contractions in 1997 and 1998 (see Figures 1 and 2). These occurred principally in Indonesia, Republic of Korea (Korea), and Thailand, although Malaysia and the Philippines were also pushed into recession. There has been a general rebound in growth since 1999-2000. However, growth has been more volatile than in the precrisis years, weakening in 2001 and then strengthening in 2002.

FIGURE 1: REAL GDP GROWTH IN SELECTED ASIAN ECONOMIES (ANNUAL PERCENT CHANGE)



Source: *Datastream and International Financial Statistics.*

FIGURE 2: GROWTH RATE OF AGGREGATE DEMAND COMPONENTS (ANNUAL AVERAGE PERCENT CHANGE IN 2002)



The recent recovery has been supported mainly by a resurgence of exports due to large exchange rate depreciations, as well as by government expenditures, especially in the PRC. Private consumption growth played an important role in countries such as Korea. Consequently, the proportions of net exports, and government and private consumption as a share of GDP have increased in most economies. However, investment growth has remained subdued in most cases. The contribution of investment to GDP declined in 2002 compared to 1995 in all but the PRC and Viet Nam, despite the large increase in government investment, which data does not allow to be separated from total investment (Table 1).

TABLE 1: SHARE OF DEMAND COMPONENTS IN GDP (PERCENT OF GDP)

ECONOMY	GOVERNMENT CONSUMPTION	GOVERNMENT CONSUMPTION	GOVERNMENT CONSUMPTION CHANGE	PRIVATE CONSUMPTION	PRIVATE CONSUMPTION	PRIVATE CONSUMPTION CHANGE	NET EXPORTS	NET EXPORTS	NET EXPORTS CHANGE	INVESTMENT	INVESTMENT	INVESTMENT CHANGE
	1995	2001	2001-1995	1995	2001	2001-1995	1995	2001	2001-1995	1995	2001	2001-1995
PRC	11.4	13.2	1.8	46.1	46.6	0.5	1.7	2.2	0.5	34.7	37.3	2.6
India	10.8	12.8	2.0	64.5	65.0	0.6	-1.2		1.2	24.4	21.7	-2.7
Indonesia	7.8	7.4	-0.4	61.6	67.0	5.4	-1.3	8.5	9.8	28.4	20.9	-7.6
Korea	9.7	10.4	0.7	54.7	59.1	4.4	-1.5	2.3	3.8	36.7	27.0	-9.7
Malaysia	12.4	12.6	0.2	47.9	45.1	-2.9	-3.9	18.4	22.3	43.6	24.9	-18.7
Philippines	11.4	12.1	0.7	74.1	69.8	-4.3	-7.8	-3.1	4.7	22.2	19.6	-2.6
Thailand	9.9	11.6	1.7	53.2	56.9	3.7	-6.7	6.5	13.3	41.1	23.0	-18.1
Viet Nam	8.2	6.3	-1.9	73.6	64.4	-9.2	-9.1	-3.3	5.8	24.7	28.9	4.1

Source: *International Financial Statistics* (International Monetary Fund, various years).

B. Changes in Bank Lending Behavior

Concomitant with a slow recovery of investment, growth of bank credit to the private sector has remained subdued in a number of economies since 1997. In 1998, credit to the private sector contracted abruptly in Indonesia, Philippines, and Thailand. Growth in bank credit has been low in Indonesia, Philippines, and Thailand for most of the five years following the financial crisis. Although credit growth in Thailand increased in 2002, a clear trend is yet to emerge. In Malaysia, lending growth has continued to be subdued since 1997. Korea is the one crisis-hit economy where bank lending has been strong. Spurred by government reform measures, bank loan growth has been propelled by increased loans to consumers and SMEs. Prompt government actions to deal with NPLs and to facilitate corporate restructuring also contributed to the recovery of bank lending.

TABLE 2: GROWTH OF DOMESTIC CREDIT TO THE PRIVATE SECTOR^a (ANNUAL PERCENT CHANGE IN REAL TERMS)

ECONOMY	1995	1996	1997	1998	1999	2000	2001	2002
PRC	6.2	15.2	17.7	17.3	13.2	11.2	8.9	17.7
India	1.3	10.4	4.1	1.8	15.1	15.3	5.4	16.4
Indonesia	12.0	12.5	21.2	-15.5	-63.2	14.8	-1.3	5.8
Korea, Rep. of	10.5	14.3	16.8	0.9	19.5	16.5	9.4	17.4
Malaysia	26.3	22.2	20.4	-2.3	-0.9	4.5	3.1	4.9
Philippines	34.6	36.4	21.7	-14.9	-8.5	1.0	-7.4	-2.2
Thailand	17.0	8.4	15.7	-14.4	-5.7	-17.3	-11.8	16.0
Viet Nam		24.5	26.3	4.2	210.3	40.5	22.0	17.7

^aDomestic credit to private sector is defined as claims on the private sector by deposit money banks (line 22d IFS). Deflated by CPI.

Source: *International Financial Statistics* (International Monetary Fund 2003).

Weak lending growth poses risks to Asia's economic growth. In economies such as the PRC and Viet Nam, the private sector has been denied or has only restricted access to bank lending, despite strong overall lending growth. On the other hand, there is some evidence that SMEs' access to credit improved after the crisis in economies such as Korea and Thailand (see Section III). Comparing the situations in these economies may provide useful insights into the changing nature of bank-firm relations in Asia.

Subdued bank lending may reflect deep-rooted structural problems. In particular, difficult corporate and financial restructuring has often accompanied tepid credit growth. Five years after the crisis, many Asian banks are still plagued by high ratios of NPLs, and firms are grappling with debt restructuring. Experience shows that difficult restructuring after a financial crisis is not confined to Asian developing economies alone. The restructuring after the savings and loan debacle in the US lasted for about a decade. Japan is still grappling with financial restructuring challenges emanating from a burst financial bubble in the early 1990s (see Section III.D). Banks and governments of DMCs face the major challenges of anticipating and dealing with these changes, and designing policies and strategies that will facilitate positive developments and address the risks during the transition period.

III. CHANGES IN BANK LENDING AND CORPORATE FINANCING —SOME RESEARCH ISSUES

This section explores several issues that may be important for research. The discussion closely follows the five sets of questions listed in the introductory section above.

A. Why has the Growth of Bank Lending been so Subdued?

1. Factors Affecting Bank Lending

The first question that is of interest is why has bank lending remained subdued in a number of economies. Numerous demand and supply side factors affect bank lending. On the supply side, reduced bank lending may come about because banks have insufficient capital for lending due to tight monetary policy and more stringent regulations such as stricter requirements on capital adequacy ratios. The accumulation of NPLs in Asia may be a particularly important influence hindering the banking system from performing its intermediary functions. An important demand side factor is the weakened status of borrowers' balance sheets. In a number of countries, the corporate sector has been struggling to deal with high debt burdens and overcapacity. Falling asset prices have adversely affected their net worth. Economic downturn itself can also cause demand for loans to decline, reflecting declines in new investment and increased excess capacity. Although reduced credit can be due to both demand and supply side factors, situations of excess demand have attracted particular research interest. The existence of excess demand at the prevailing interest rates has been termed "credit crunch."

Several theoretical arguments have been put forward to explain the existence of credit rationing (see, e.g., Stiglitz and Weiss 1981, Wojniloer 1980). Most theories relate to asymmetric information and adverse selection. Much empirical research has also been devoted to the causes and consequences of a credit crunch. The reduction in the growth rate of bank lending associated with the 1990-1991 recession in the US has attracted particular academic attention. The Asian financial crisis has ignited research on the credit crunch in Asia. Various methodologies have been employed to ascertain the existence of credit crunches in countries affected by the crisis (see, e.g., Borensztein and Lee 2002, Agenor et al. 2000, Dwor Frecaut et al. 1999, Ghosh and Ghosh 1999, and Beng et al. 2001). The studies revealed mixed evidence.

2. Research Topics

a. Methodologies

Identifying the cause of slow credit growth has important policy implications. At a macroeconomic level, ascertaining whether a contraction in domestic credit is due to supply or demand factors is important for formulating appropriate monetary and fiscal policies. Distinguishing the major impediments to bank credit expansion also has important implications for formulating corporate and financial restructuring programs. For example, if the debt burden of firms hampered their borrowing, then corporate restructuring is pressing. On the other hand, if firms are suffering from a credit crunch, then the restructuring of banks is the most important issue. It is also important

to determining which segment of the economy is most affected by changes in bank lending behavior. For example, consideration of whether SMEs suffer from a credit crunch raises efficiency as well as equity issues.

Despite the importance of attempting to separate demand and supply side factors affecting bank lending, such efforts are intrinsically difficult. Often both demand and supply side factors are at play and changes to both happen almost simultaneously. Because of this, convincing evidence of credit crunches remains elusive.

In a simplified case, a supply-induced reduction in credit corresponds to a shift in the supply curve and an increase in the interest rate, while demand factors cause a reduction in interest rates. Correspondingly, some research tries to identify credit crunch by examining whether interest rate spread increased. Rising interest rate spread, however, is not a definitive indicator of credit crunch. The bankruptcy rate and default rates on loans rise during recessions, and even more so during crises. The spread between a bank's lending and borrowing rates should rise to compensate for increased risks. Thus, interest rate spreads across different periods are not comparable (Holmstrom and Tirole 1997).

Some researchers use firm surveys to detect credit crunch. However, such survey evidence can be biased. For instance, tight credit and high interest rates can reduce demand, so that respondents may erroneously perceive a lack of demand to be the main problem (Agenor et al. 2000).

Several researchers have used disequilibrium frameworks based on Maddala and Nelson (1974). However, Ghosh and Ghosh (1999) add a note of caution to their findings based on this methodology. They note that a credit crunch refers to a situation in which credit is unavailable at prevailing interest rates, but high interest rates themselves will impose a burden on borrowers. The specification of equations and endogeneity of variables may cause bias in the estimation.

Another way to examine credit crunch is by looking at credit from other sources. If a reduced supply of bank loans had caused a lending slowdown, alternative forms of credit will grow as borrowers seek substitutes. If all types of credit growth slow, falling credit demand may be at play (Bernanke and Lown 1991). Overall, however, few studies analyze firm financing from other sources.

Given the intrinsic difficulties in determining whether credit is caused by demand OR supply side factors, it is probably true that both demand AND supply factors are at play. Changes may be initiated from the supply or demand side, and some factors play a stronger role than others. In this sense, a reduced form equation incorporating both demand and supply side variables may prove to be useful in analyzing what factors from both the demand and supply side are the main contributing factors. Such a methodology can be supplemented by examining other factors, such as interest rate spread and firms' financing from other sources, to determine the major factors affecting bank lending.

b. Distinguishing Large and Small Firms

In analyzing the relationship between bank lending and corporate finance, there is the need to distinguish large and small firms. It has long been realized that small, unlisted firms are more likely to bear the brunt of credit rationing than large, listed, and diversified corporations. Small

firms often find it prohibitively expensive to raise funds in capital markets by issuing debt or equity. Thus they are often more dependent on bank loans. Kim et al. (2002) concluded that credit crunch in Korea is not a general phenomenon, but was limited to small and medium firms. SMEs in economies such as the PRC and Viet Nam have long faced difficulty in obtaining credit, despite overall high credit and investment growth. Distortions induced by measures such as policy lending, banks' inability to evaluate SME investment, and long-established bias against nonstate-owned enterprises, still play an important role in allocating bank lending.

This suggests that SMEs are vulnerable to credit crunch. However, two factors may modify this assertion in Asia. First, some recent studies point to changes in bank lending. Lending to SMEs may increase as banks seek new customers to fill the void left by big borrowers moving to capital markets. For example, using firm-level data, Borensztein and Lee (2002) found that there was a shift in credit allocation in post-crisis Korea. The relative advantage of *chaebols* seems to have disappeared, while lending to SMEs seems to be on the rise. Secondly, SMEs in Asia may not rely as much on bank financing as firms in developed countries. Asian SMEs often have to rely on internally generated or organized financing. Thus reduced bank lending may have a lower impact on them. It is thus important to distinguish firm sizes and, in some cases, differences in firm ownership categories, when assessing credit constraints.

More research is needed to examine factors affecting bank lending in Asian economies. The analysis can look at factors on both the bank (supply) and firm (demand) sides. On the demand side, it may be of value to examine firms of different sizes, and possibly, different ownership categories.

B. What Substitutes for Bank Lending have Emerged?

The development of effective substitutes for bank lending has implications for corporate finance, banks, and the financial sector as a whole. Reduced bank lending will have relatively little effect on firm financing and the economy if alternative forms of credit are available. The development of other forms of financing also contributes to overall financial sector development.

1. Is Credit from Banks Important for Firm Financing in Asia?

When examining alternatives to bank lending, it is important to ascertain whether bank lending is important for firms. Firms obtain finance from a variety of sources, including internal equity (retained earnings), external equity, bank loans, and debt. Little detailed cross-country data on firm financing in Asia is available. However, the Asian Development Bank and World Bank are collaborating on an Investment Climate Survey (ICS)¹ in more than 30 countries. The survey includes questions on sources of firm financing. East, Southeast, and South Asian countries covered in the Survey include Bangladesh, Bhutan, Cambodia, PRC, India, Indonesia, Malaysia, Mongolia, Nepal, Philippines, Sri Lanka, Pakistan, and Thailand. Preliminary statistics are available for two South Asian economies (Bangladesh and Pakistan), and five Central Asian countries (Azerbaijan, Kazakhstan,

¹ ICS contains firm's financing information as access to and cost of financing are considered important facets of what is generally defined as a country's "investment climate."

Kyrgyzstan, Tajikistan, and Uzbekistan). Data for these seven countries indicate that sources of financing differ between countries. However, retained earnings are overwhelmingly the major source, contributing from 55 percent to almost 80 percent of total financing needs (Tables 3 and 4).

TABLE 3: SOURCES OF WORKING CAPITAL AND NEW INVESTMENT FINANCE: SOUTH ASIA

SOURCE OF FINANCING	PERCENT OF WORKING CAPITAL FROM PAKISTAN	PERCENT OF WORKING CAPITAL FROM BANGLADESH	FINANCING OF NEW INVESTMENTS FROM PAKISTAN	FINANCING OF NEW INVESTMENTS FROM BANGLADESH
Retained Earnings	65.4	55.6	55.6	59.9
Banks and Other Financial Institutions	5.1	33.5	6.2	29.7
Trade Credit	4.6	4.2	1.7	2.6
Equity	12.7	0.5	14.1	0.4
Informal Sources	1.3	0.5	2.6	0.3
All Others	10.9	5.8	15.4	7.1

Source: Investment Survey (<http://www.worldbank.org/privatesector/ic>).

TABLE 4: SOURCES OF WORKING CAPITAL AND NEW INVESTMENT FINANCE: CENTRAL ASIA (AVERAGE)

SOURCE OF FINANCING	SHARE OF WORKING CAPITAL FROM	FINANCING OF NEW INVESTMENTS FROM
Internal Funds/Retained Earnings	72.5	44.4
Equity (i.e., issue new shares)	0.5	0.5
Borrowing from Local Private Commercial Banks	2.3	1.4
Borrowing from State-owned Banks, including State Development Banks	1.8	0.8
Borrowing from Foreign Banks	0.2	0.3
Loans from Family/Friends	4.8	2.8
Money Lenders or Other Informal Sources (other than family/friends)	1.8	1.0
Trade Credit from Suppliers	4.2	1.3
Trade Credit from Customers	3.4	1.4
Credit Cards	0.1	0.0
Leasing Arrangement	0.5	0.1
Government (other than state-owned banks)	2.3	1.2
Other (specify sources)	2.5	1.6

Source: Investment Survey (<http://www.worldbank.org/privatesector/ic>).

The heavy reliance on internal financing, however, does not diminish the importance of external sources of financing. To some extent, it is a manifestation of the underdeveloped banking sector and capital market, and the limited role of the formal financial sector in allocating resources. It may also be indicative of the financial constraints faced by these firms. Comparatively, the survey data indicates that firms in the two South Asian economies covered rely more on bank loans compared to those in Central Asia. The role of bank lending is probably even more important in East and Southeast Asia (Table 5). Aggregate data indicates that bank lending plays an important role in allocating resources there.

**TABLE 5: DEPOSIT MONEY BANK LOANS TO PRIVATE SECTOR
(PERCENT OF GDP, 2002)**

ECONOMY	DEPOSIT MONEY BANK LOANS TO PRIVATE SECTOR
PRC	139.5
India ^a	28.9
Indonesia	21.9
Korea	105.3
Malaysia	99.3
Philippines	32.4
Thailand	81.1

Note: Outstanding domestic corporate issued debt securities are those that have been issued by the corporate sector in domestic currency and targeted resident investors. Data are crude estimates as private placements are not included.

^aIndia: 2001 data.

Source: *International Financial Statistics* (International Monetary Fund 2003).

Nevertheless, heavy reliance on internal financing may also occur in East and Southeast Asian economies, a situation that needs to be verified when data is available. Addressing impediment to firms' access to bank credit is an issue that can be discussed by research.

2. Bank Lending and its Substitutes—Large and Small Firms

Firms' sources of finance change over time. Typically, a firm may start as a family-owned business, using its own resources and savings from social networks. It will then grow to obtain funds from its suppliers. When it has established a suitable business record, developed accounting systems, and established a legal identity, it may be able to get loans from a bank. As it expands, it will be able to attract funds from a wider circle of financial intermediaries, including banks, venture capitalists, leasing companies, and financing companies. Over time, as it develops in terms of size and has demonstrated stability, it may be able to access the capital market, first for equity financing from the private placement market, and then bond and equity markets from the public market.

This development process implies that sources of finance differ between large and small firms. Compared to large firms, smaller firms may have fewer substitutes for bank loans.

a. Financing Options for Small Firms in Asia

Small firms in developed countries rely primarily on bank lending due to their informational opacity (Berger and Udell 1998). Small firms do not regularly report financial information. Many do not have audited financial statements. By closely monitoring firms and establishing a relationship with them, banks may play an important role in their financing. In addition to banks, private equity and debt markets offer some alternatives in developed countries. These include principle owners, angel finance, and venture financing.

Compared to their developed country counterparts, Asian SMEs may rely more on internally generated financing, or financing organized through informal networks or markets. This may be due to the fact that information opacity is so severe as to impair banking lending to them. Banks are either unable to assess the risks or unwilling to lend to SMEs. This should not divert attention away from the need for better financing of SMEs as they may be forced to rely more on internal finance, which may, in turn, constrain SME growth and curtail overall economic growth.

The 1997 crisis may have induced some significant changes on banks' credit allocation in Asia. Kim (2003) shows that profitable small firms gained easier access to credit from banks after the crisis in Korea as the creditworthy large firms migrate to the capital markets. Also the banks began to specialize in providing credit to consumers. In some countries, difficulties in accessing bank credit have spawned a thriving informal capital market. In South PRC, such informal markets emerged in response to the tight control of the formal financial sector. The changing role of bank lending and informal financial markets on SME financing merits careful examination.

b. Financing Options for Large Firms in Asia

In developing Asia, large firms have long had a close relationship with banks as part of the relationship-based systems that help to create the Asian miracle. In recent years, there is some evidence that large firms' reliance on bank lending has decreased, however. Large firms seek to benefit from the reduced costs and flexibility of the capital markets. In Korea, the new regulatory framework forced banks to recognize the real cost of corporate loan guarantees. This helped to push creditworthy corporations to the capital markets. Some Korean firms with good reputations have used bond issues to pay back their bank loans (Kim 2003). In Thailand, larger firms have been turning to capital markets to circumvent more stringent bank lending conditions and reduce their bank debt loads (Molnar 2003b).

Asian firms' traditional reliance on internal finance and bank loans also reflects limited financing options. Equity markets grew rapidly in the 1980s and 1990s. However, their overall role is still limited. The number of listed companies has increased over the years, but is still low for many economies, accounting for less than 0.5 percent of the total number of firms (Table 6).

TABLE 6: NUMBER OF LISTED FIRMS IN SELECTED ASIAN ECONOMIES

ECONOMY	1995	1996	1997	1998	1999	2000	2001	2002	2003
PRC		530	745	851	947	1086	1154	1223	1251
India (Bombay Stock Exchange)	5398	5999	5843	5860	5863	5937	5795	5650	5643
Indonesia (Jakarta Stock Exchange)	229	253	282	289	277	291	321	336	337
Korea (Korea Stock Exchange)	721	760	776	748	725	704	689	683	686
Malaysia (Kuala Lumpur Stock Exchange)	529	621	708	736	757	795	812	865	889
Philippines (Philippine Stock Exchange)	205	216	221	220	225	229	231	234	233
Thailand	416	454	431	418	392	381	382	389	396

Source: CEIC.

Compared to the relatively rapid development of equity markets, bond market development has been slow in most Asian economies. Market values of all listed bonds are generally below US\$100 billion in Asia, except in a few countries such as Korea and Singapore. In many economies, bonds are not publicly traded but rather traded over the counter among investors comprising mainly banks and financial institutions (Cheung and Chan 2002).

Herring and Chatusripitak (2001) argue that the absence of a bond market may render an economy less efficient and more vulnerable to financial crisis. In the absence of a bond market, the economy will also lack market-driven interest rates that accurately reflect the opportunity costs of funds at maturity. This will make it difficult to develop efficient derivative markets. Information on bond prices can be used to price comparable bank loans, so that quantity rationing can be reduced. The absence of a corporate bond market magnifies misdirected government credit allocation preferences, as banks are more likely to engage in crony capitalism. Reliance on short-term bank loans and external debt created the maturity and currency mismatches that contributed to the Asian crisis.

Policymakers in Asia are increasingly acknowledging the importance of bond markets. Many believe this has made several Asian economies more vulnerable to financial crisis. Since the 1997 financial crisis, the more advanced economies such as Korea and Thailand have devoted much attention to developing domestic bond markets. Their experience may provide insights for market development in other emerging Asian economies.

In addition to capital markets, foreign capital is also an important source of potential finance. Kruger and Toernell (1999) show that in the years after the Mexican financial crisis of 1994, tradable sector firms were subject to a less stringent credit crunch and experienced a faster recovery than firms in the nontradable sector, as they were able to gain foreign capital. Park and Sehart (1999) also highlighted that access to capital is more of a problem for nonexport firms.

Prior to the 1997 crisis, financial institutions in Asia actively took on foreign currency debt. However, the availability of external funding was drastically reduced. The reliance of short-term foreign debt has also exposed economies to high risks. When investor confidence in the region weakened, the withdrawal of funding caused a chain reaction characterized by plunging exchange rates and rising interest rates. It is important to examine how firms tap into foreign capital markets as economic recovery occurs, and whether the sources and composition of foreign financing alters.

3. Future Research

In line with the discussion in this section, it is both interesting and important to explore the following questions:

- (i) How important is bank lending as a source of external financing for firms?
- (ii) What alternative external sources are available for firms?
- (iii) What changes have emerged in recent years?
- (iv) What are the implications of the development of alternative external financing sources to firms, banks, and the financial systems as a whole? In particular, do these alternatives complement bank development or act as a substitute for it?
- (v) What are the impediments to firms' gaining access to bank loans, capital markets, and other external financial sources?

It is important to distinguish the financing options for large and small firms due to their different financing characteristics.

There is a particular need for continued research on capital market development. This is important because the need to develop capital market infrastructure and institutions to strengthen the role of capital market increases as firms migrate to capital markets.

Capital market development in Asia has important policy implications. Greenspan (1999) suggests that the countries most susceptible to banking shocks are those that lack developed capital markets. He reasons that countries with well-developed capital markets insulate borrowers by providing good substitutes when banks stop lending. Similarly, Rajan and Zingales (1998) argue that sufficient competition from capital markets prevents banks from misallocating funds to unprofitable investment projects and mitigates the impact of a financial crisis on the real sector. Ongena et al. (2000) found that access to the capital market helped Norwegian firms during their economy's banking crisis between 1988 and 1991. During this time, banks representing 95 percent of all commercial bank assets in Norway became insolvent, forcing the closure of one bank and the bailout of numerous other financial institutions, including Norway's three largest commercial banks. Although banks experienced large and permanent downward revisions in their equity value during the period, firms maintaining relationships with these banks faced only small and temporary changes in stock prices. They propose that the Norwegian equity market may have insulated companies from shocks to the banking system. Thus, the presence of a well-functioning capital market may moderate the impact of a banking crisis on borrowing firms.

Many studies exist on capital market development. ADB also has several projects on capital market development in various countries. Given this, finding some unique angle is the key to make the research interesting.

C. What is the Impact of Changes in Bank Lending Behavior on Firm Financing?

Changing bank lending behavior will alter various features of firm financing, such as capital structures, cost of capital, and firm ownership. Recent research shows that these characteristics affect firms' investments and thus economic growth.

1. Capital Structure

In 1958, Nobel laureates Modigliani and Miller advanced the proposition that capital structure has no effect on the value of a firm under perfect capital market assumptions. However, given the existence of taxes, bankruptcy, agency costs, and asymmetric information, financial theory indicates that capital structure does affect the value of a firm.

Much has been written on optimal capital structure involving debt and equity. In most models, an optimal debt equity mix is determined by a trade-off between the tax advantages and costs related to financial distress and agency costs. Financial distress costs arise when firms have difficulties meeting principal and interest obligations, the extreme case being bankruptcy. Agency costs arise because firms that take on too much debt in relation to equity will not have a sufficient stake in the financial outcome and will therefore not behave diligently.

Some empirical work links firms' financial structures to their performances. Most emphasize vulnerability related to high leverage. For example, using a database of 5,550 firms in nine countries over the period 1988-1996, Claessens et al. (1998) find large differences in performance and financial structure across East Asian countries. The combination of high investment and relatively low profitability meant much external financing was needed. As outside equity was used sparingly, leverage was relatively high. They attribute the vulnerabilities in corporate financial structure due to high leverage as one factor triggering and aggravating the Asian financial crisis. Park and Seht (1999) believe fragile corporate financial structure contributed to the depth and length of Thailand's financial crisis.

Changes in capital structure have taken place in Asia in recent years. There is evidence that the share of bank loans has declined, while bond financing has increased for large firms. However, some also find that enterprises have become more leveraged (Molnar 2003). On the other hand, the share of long-term liabilities in total liabilities has increased.

Given that capital structure can be related to firm performance and resilience to external shocks, adjustment in firms' capital structure may be an important part of firm restructuring. It is important to examine the changes in capital structure and their implications for large and small firms. The analysis can explore not only debt to equity ratios, but also different types of debts in firm financing, such as bank loans and corporate bond.

2. Cost of Capital

Changing sources of financing and capital structures may have a bearing on firms' cost of finance. Often internal sources of finance are considered cheaper to external finance due to capital market imperfections such as transaction costs, agency problems, cost of financial distress, different

tax treatments, moral hazard, and, in particular, asymmetric information. Thus, if capital market imperfections exist, the cost of capital depends on the source of finance.

Some research demonstrates bank loans carry higher costs than public debt markets because banks' claims are relatively illiquid and they have to cover costs created by banking regulations (Johnston 1997). Rajan (1992) asserts that banks develop information monopolies over borrowers and can distort investment incentives by demanding a share of the rents from profitable projects as a condition for rolling over short-term loans. When analyzing bank and firm behavior in Japan, Weinstein and Yafeh (1998) argue that banks provided relatively easy access to financing, but extract rents in the process. The cost of capital to firms with closer bank ties is higher than that of their peers. This prompted bond-eligible firms to shift toward alternative financing sources at the earliest opportunity. In Thailand, Arsiraphongphisit et al. (2000) shows that the most frequently identified determinants of capital structure policy were the cost of funds and the need to maintain financial flexibility.

These arguments indicate that sources of firm financing have a bearing on capital structure and the cost of capital. It is therefore useful to explore cost of capital issues within the context of changes in corporate financing in Asia.

3. Firm Investment

Changing the sources of capital for firms may affect their investment strategies and profitability due to capital market imperfections. De Meza and Webb (1987) and Driffield and Pal (2001) demonstrate that if capital markets are imperfect, investment may depend on the source of financing. In particular, where there is over reliance on debt financing, over investment can result in the sense that investment exceeds the socially optimal level. Some argue that such over investment was a cause of the Asian financial crisis because it led to poor profitability (Pomerleano 1998).

Given the relevance of financial factors on firms' investment decisions, it may be useful to examine how investment behavior has changed in the postcrisis years, and the consequences of this for firms' profitability. In countries that are not directly affected by the crisis, it may be useful to examine whether over or under-investment occurred in firms of different size and ownership categories following specific bank lending behavior.

4. Ownership of Firms

Corporate sector ownership is highly concentrated within family and family-affiliated groups in some Asian economies. The ten largest families in Indonesia, Philippines, and Thailand each control half of the corporate sector in terms of market capitalization, while the ten largest families in Hong Kong, China and Korea each control about a third of the corporate sector. Over 16 percent and 17 percent of total market capitalization in Indonesia and the Philippines respectively can be traced to the ultimate control of a single family (the Suhartos and the Ayalas respectively) (Claessens et al. 1998). Initially, family business is financed largely by internal finance. As the enterprises grow over time, the role of banks and outside equity becomes more prominent. Despite the changing source of financing, however, ultimately control of business resides within the family.

Khan (2003) found that family businesses help to minimize agency costs in less developed economies. Herring and Chatusripitak (2001) point out that family ties may substitute for a strong financial infrastructure. In the absence of strong accounting and disclosure practices, information is likely to flow more readily within families. Thus adverse selection problems are likely to be mitigated within the family.

However, family controls have drawbacks, especially as economies become more developed. Park and Sehn (1999) found that incentives to improve information disclosure and governance were not strong in Thailand during the early 1990s because of family control. Many firms had comfortable relations with banks and other financial intermediaries and were easily able to raise equity through new stock issues. With ample liquidity and weak discipline, managers and owners of firms had little to gain from improving disclosure and corporate governance. Some argue that family control may have contributed to the weak performance and risky investment of many Asian corporations prior to the crisis (Claessens et al. 1998).

Family controlled firms tend to resist listing. Chou et al. (1993, 307) documented that in Taipei, China there are at least 500 firms that meet the listing requirement for the Taipei Stock Exchange, yet have chosen not to list. One reason is that many large Taipei, China firms remain family controlled and are reluctant to dilute their ownership or to disclose information. Arsiraphongphisit et al. (2002) found that in Thailand, some firms suffer from capital rationing due to their reluctance to obtain external finance.

Concentrated family ownership generates divergence between cash-flow rights and control rights. Even if the control rights of each firm based on the share of stock holding are small, ownership based on voting rights, not cash-flow rights, can be concentrated through pyramid structures. Thus, a firm may own a majority of the stock of one firm, which in turn holds a majority of the stock of another firm and this process can be repeated. Banks are often incorporated in this pyramid structure, providing loans to affiliated firms without properly taking into account the risks involved (Shirai 2001). This may have contributed to NPLs in banks.

One of the questions that can be addressed is whether the crisis and resulting changes in bank lending and firm financing has begun to affect ownership structure in Asian firms?

D. What are the Implications of Changing Bank Lending and Firm Financing Behaviors on the Banking Sector?

Changing bank-firm relations have a profound impact on the banking sector. Such changes can trigger a positive process leading to more sound financial systems, or a negative process that impairs banks' role in an economy.

There is evidence that banks' corporate customer base is changing in postcrisis Asia. In Thailand, Molnar (2003b) notes that large firms tend to use capital markets to raise funds. Decreasing corporate lending growth coupled with steady deposit growth has reduced bank profits. There is an increased tendency for banks to lend to new customers such as SMEs and individuals. Consolidation through merger and acquisition is also taking place. Banks are also expanding the scope of their activities into areas such as securities. While increased lending to SMEs itself may constitute a positive

development, it also raises risks for banks. Flight to quality² may occur. This process, if not managed properly, can cause much financial fragility, as the experiences of Japanese banks show.

The experience of Japanese banks offers valuable lessons for Asian economies. Gower (2000)³ traced Japan's current banking problems back to the displacement of the banking system that occurred during the 1980s. A key cause of the problem was the deterioration in the average quality of borrowers as large firms became less dependent on bank finance as they matured and security markets became more accessible.

During the 1970s, economic growth in Japan began to slow. Domestic investment opportunities became scarcer, causing the retained earnings of larger corporations to rise. Further, capital market reform over the 1980s facilitated the bond market. By 1994, the largest Japanese firms were undertaking up to 80 percent of their borrowing directly in local and offshore markets (OECD 1996, 177). Hoshi and Kashyap (1999) note that large Japanese borrowers, particularly manufacturing firms, have become almost as independent of banks as their US equivalents. As well as being cheap, bonds confer greater autonomy on firms.

The increase in retained earnings and bond financing for large firms represented a significant threat to the market share and operating income of the banking sector. These changes led to some distancing of banks and high quality borrowers, and the squeezing of banks' profit margins. Furthermore, Japanese banks were not only competing with the more liberal security markets, but also much more aggressively with one another as firms became more inclined to shop around for bank debt.

Banks responded with more aggressive loan promotions. They increased lending to unfamiliar sectors, particularly SMEs and the real estate sector. This initially proved profitable. However, the redirection of bank credit, especially into real estate, brought with it considerable risks, especially the risk of default. The strong emphasis on the promotion of lending also compromised the screening of loan applications, and the average quality of borrowers fell. This was to become the prime driver for the NPL problems that rose to prominence several years later.

This behavioral change by banks was exacerbated by problems of moral hazard. No bank had been allowed to fail between 1945 and 1996. This made banks vulnerable to managerial slack, and may also have encouraged individual bank managers to seek out projects with a high risk and return profile. There were also problems with the protection offered to the depositors of banks. Between 1971 and 1996, deposit insurance premiums were levied at a flat rate of 0.012 percent of deposit liabilities. The insensitivity of this pricing arrangement to portfolios' degree of risk may have encouraged banks to target high-risk lending sectors (Oda 1999). The behavior of depositors is another important aspect of this problem. Although banks were increasingly targeting high-risk borrowers and monitoring their clients less effectively, households continued to deposit their savings in them. This may have been because alternative instruments were inaccessible to households, although moral hazard may also have been involved. Households continued to hold their savings as bank deposits because they believed that those savings were subject to implicit guarantees. These emerging problems may have been exacerbated by factors such as opaque accounting practices and problems of laxity in the regulation of nonbank financial intermediaries.

² Flight to quality in lending is defined as a decline in the share of credit flowing to borrowers with high agency costs (Gilchrist et al. 1994).

³ This section draws heavily from Gower (2000).

The experience of Japan highlights the difficulties authorities experienced in insulating the banking system against the more harmful effects of necessary reforms. It offers useful lessons for Asian economies. As capital markets develop and firms mature in Asia, it is natural for large firms to shift to the security market. Financial crises may have already triggered such processes in some Asian economies. This process poses many challenges to banks and regulators. In Korea, for example, the increased lending to SMEs and consumers increased default rate and accumulation of NPLs in the banking sector. The subsequent tightening of credit expansion has, in part, brought the economy into recession. How banks can effectively manage this transition and governments smooth the process is an important research question.

Strengthening of the banking sector has become more urgent with globalization and increased capital mobility, financial liberalization and changing regulatory regimes, and technology progress. In particular, the operation, regulation, and governance of banks need to evolve to suit the new conditions. In Asia, one issue that is of particular importance is corporate governance in the banking sector. This is so because government regulations aimed at addressing these market imperfections in the financial market has not always worked well as indicated by the emergence of banking crises. Some regulations prove incapable of addressing market failures. Through regulations, governments also introduce distortions that exacerbate moral hazard and adverse selection problems.

An indication of the limited efficacy of regulation has been the continued emergence of banking crises in recent years, not least the Asian financial crisis. Lindgren et al (1996) notes that out of the 181 IMF members, 133 experienced significant banking sector problems during 1980-1995. This, coupled by the increasingly complex banking operations, has prompted a shift of attention toward increased reliance on market forces to supplement their supervision (Bongni et al. 2002).

This shift of bank regulators' attention from regulation to market discipline calls for enhanced corporate governance in banks. Prudent behavior by banks can only be assured through establishing the right underlying institutional characteristics. Corporate governance is one of the most important of these characteristics. Sound corporate governance is essential for inducing the "right" incentive structure, and utilizing market forces to discipline all market participants.

Poor corporate governance is often identified as an important contributor to financial instability and crisis. Research to address corporate governance weakness in Asia can shed light on policy reforms.

E. Toward Sound Financial Systems— What Strategies and Visions Should Governments Adopt?

Corporate financing and corporate governance are closely linked, and both are influenced by the structure of the financial systems they interact with. In addition to addressing specific issues that have emerged in the banking, financial, and corporate sectors, there are some more philosophical and more general questions that can be addressed in line with changes in corporate financing, bank lending, and capital market development. One of great importance is what strategies and visions should governments adopt to develop sound financial systems in Asia. Specifically, should emphasis be placed mainly on revising banking sectors, or should resources also be allocated to develop capital markets, especially bond markets. The development of financial systems is endogenous in many ways, and depends on a host of country-specific circumstances, including

legal, social, and cultural factors. Nevertheless, government policies, visions, and strategies do shape these systems. The various factors behind imperfections in financial markets may also justify policy interventions in financial development.

1. Financial Systems and Corporate Finance and Governance

Broadly speaking, financial systems are classified as bank-dominated (relationship-based) and market-dominated (the arm's length) systems. Following the pioneering work of Goldsmith (1965), Shaw (1973), and McKinnon (1973), much recent research has been devoted to examining the role of financial systems in corporate governance and the implications for economic growth and development.

One strand of investigation examines whether capital markets or banks are more effective in monitoring firms and disciplining management. Some argue that close bank-firm ties in bank-dominated systems can mitigate asymmetric information and moral hazard problems. These relationships facilitate the flow of information and thereby promote effective corporate control (see Beck et al. 2001 for further discussion). However, opponents argue that there are several deficiencies in bank-based systems. In bank-based systems, bankers often hold equity and voting shares of other shareholders. Thus, banks might collude with managers. Bank-firm collusion stymies competition, weakens corporate control, hinders new firm entry, and impedes economic growth (Hellwig 2000, Wenger and Kaserer 1998). Given the lack of price signals, banks may finance projects with negative returns (Rajan and Zingales 1999).

Some researchers highlight the role of market finance in creating appropriate incentives for firms. Scharfstein (1988), for example, stresses the role of the equity market in corporate governance through hostile takeovers. Rajan and Zingales (1998 and 1999) argue that capital markets transmit price signals that can guide firms' investment. Some (1995) shows that more liquid stock markets make investing in long-term projects more attractive because investors can sell their stake in the project if they need their savings before the project matures. Others, however, argue that more liquidity reduces the incentive for shareholders to undertake the costly task of monitoring managers. This, in turn, weakens corporate governance, impedes effective resources allocation, and slows productivity growth. Some point out that small investors are reluctant to expend resources acquiring information and exerting corporate control in stock markets and would rather free-ride on other investors (see Beck et al. 2001 for more discussion).

Empirical evidence centered on the relationship between financial systems and growth has not produced a consensus as to which financial structure is most beneficial to growth. While no academic consensus has emerged, there is a trend in many countries to develop capital markets. This has been partly inspired by the success of the US and UK financial systems, and the recognition that capital markets are more efficient providers of financial services provided extensive legal, regulatory, and institutional supports are in place.

2. The Role of Evolving Financial Systems

While debate continues on the relative merits of banks and markets, there is an emerging consensus that banks are better suited to monitoring smaller firms. Lending to small firms is fraught

with information asymmetry. Banks may be able to reduce information costs by maintaining long-term relationships. They are typically more hands-on, engaging in project selection, monitoring firms, and identifying promising projects.

The work of Holmstrom and Tirole (1997), Boot and Thakor (1997), and Johnson (1997) point out that bank lending is likely to be important when investors are smaller, while more reputable firms can borrow from the capital market. Rajan and Zingales (2003) suggest that relationship-based systems and arm's length systems suit different institutional conditions. Relationship-based systems perform better when markets and firms are smaller, legal protection is weaker, transparency is low, and innovation is mostly increment rather than revolutionary. But these systems also suppress price signals. When there is large external capital inflow, this system is more prone to shocks as foreign investors keep their claims short-term. Rajan and Zingales (2003) assert that relationship-based systems will hold back economic growth when markets and firms are bigger and are formally organized and legal enforcement is more developed and transparent, while market-based systems perform superior under such conditions.

3. Questions for Research

It is far from clear what type of financial system is best suited to ensuring efficient corporate finance and governance, and economic growth. It is unlikely that the debate on this issue will produce consensus in the near future. Furthermore, there may not be a financial system that can be applied universally without adjustment to suit local circumstances. Thus, overemphasis of a single type of system may not be conducive for policy making.

While intellectual debate has continued, however, many countries have made steps to develop capital markets. Furthermore, both theory and evidence show that as corporations mature, their need for bank loans decreases while reliance on internal finance and market finance increases. As economies move beyond relationship-based systems due to increased size and complexity, they also tend to develop the arm's length systems that are necessary as a bases for capital markets. Thus, over time, banks may lose their disciplining influence over firms. As such changes occur, a host of new risks and opportunities can accrue in both the corporate and banking sectors. In particular, banks that excel in relationship-based systems may face increased challenges from these developments. What financial systems are most suited to the new conditions and circumstance deserves much discussion.

While financial development is to a large degree endogenous, questions still remain over how government policy can help mould financial systems so they perform well in changing economies conditions, and what visions and strategies governments should adopt in moving to facilitate sound financial and corporate systems in the coming decades. These questions can be explored in future research.

IV. CONCLUDING REMARKS

Growth in bank lending has slowed in some Asian economies, particularly those directly affected by the financial crisis. In others, while economywide lending slowdown is not as apparent, some segments of the economy still face tremendous barriers to obtaining finance. This raises questions about sustained investment and economic growth.

In addition to changes to lending growth, there has also been a series of dynamic changes in the financial and corporate sectors. Some of the changes may prove beneficial for long-term economic growth. On the other hand, many challenges and risks have emerged. The next few years therefore present an important opportunity to examine these changes, anticipate developments, address risks, and effect the transition.

Various issues emerged in light of changing corporate financing, bank lending, and capital market development, providing ample and interesting research opportunities. This paper outlined a few areas for research. Studies on these and other issues can contribute to policy formulation in Asia. Sound policies are essential to reduce financial and corporate sector vulnerability to economic shocks, and to enhance the efficiency of investment. Through studying Asian corporate and the financial sectors, further research can also shed light on ADB's operational strategies. Although much has been written on the corporate sector or the banking sector in Asia, few studies comprehensively examine the two as interrelated segments of the economy. More research can contribute to the existing literature and ongoing debate.

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