

Designing New Regulatory Frameworks
for the Intermediate Financial Structure
in Post-Crisis Asia

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Executive Summary

1. In recent years, commercial banks have found it increasingly necessary to engage in nonbanking financial activities, as their incomes from these activities are declining in the process of domestic banking sector liberalization and capital account liberalization. This tendency has been strengthened by advances in communication and information technology and the development of new financial assets. Furthermore, banks are already playing an important role in the Asian bond market as issuers, underwriters, investors, and guarantors given their dominance in the financial market. Thus, the role of banks for fostering the development of the corporate bond market and their complementary relationships to the corporate bond markets should not be dismissed.
2. This situation is referred to as the “intermediate financial structure” where bank loans are substituted for premature corporate bonds. Since banks have an advantage in conducting securities businesses or other nonbanking activities owing to their information advantages, their involvement is complementary to the development of corporate bond markets. This structure is likely to be put into place in the short- to medium-term in Asia, lying between a bank-dominated economy where banks provide traditional banking services and a mixed economy where a large number of borrowers have direct access to corporate bond and equity markets in addition to bank loans. In the latter economy, bank loans are substituted for matured corporate bonds.
3. Involvement in nonbanking activities give banks an opportunity to increase their non-interest incomes, thereby enabling them to sustain their profitability. Banks are able to perform those activities efficiently by exploiting economies of scope, information advantages, and, to a lesser extent, economies of scale. Furthermore, they are able to maintain long-term relationships with their clients throughout their business cycles—starting with bank loans and later switching to securities underwriting.
4. At the same time, banks’ engagement in nonbanking businesses may give rise to new problems. Those include a concentration of power in the banking sector, an aggravation of conflicts of interest between banks and ultimate creditors (i.e. depositors), crowding out of small banks, spill-over effects of the risk of nonbanking activities to the banking system, and a slower pace of financial innovation as compared with independent non-bank financial institutions.

5. Underwriting businesses may incur risks such as banks having to purchase unsold issues, which potentially give rise to various conflicts of interest between bank underwriters and public investors, against benefits of the latter. While banks' engagement in underwriting businesses may increase the confidence of public investors in the securities market, it may make it difficult for issuers that have long-term relationships with banks to select independent underwriters rather than bank underwriters, raising switching costs and generating "lemon" problems. In these cases, the costs of banks' underwriting may exceed the benefits, such as lower underwriting costs for bank underwriters as compared with independent underwriters owing to the former's information advantage.
6. Market making and dealing activities may increase the transformation risks that banks must bear. In addition, banks may find it difficult to set wage bases among employees working in different departments. This is because wages for employees engaging in traditional banking services may be relatively stable and increase at a relatively constant rate, while those in proprietary trading are generally based on performance. Furthermore, if banks perform both dealing and underwriting businesses, bank underwriters may attempt to underprice securities to obtain capital gains.
7. Some stress that insurance businesses enable banks to exploit economies of scope and information advantages more than other nonbanking businesses, while risk is generally low because the industry is highly regulated. Nevertheless, this may give rise to insolvency problems if reverse interest margins take place. Moreover, banks may offer tie-in services to their clients, creating captive markets and lowering competition in the insurance industry.
8. The purchasing of stocks of non-bank firms may help minimize conflicts of interest between banks and shareholders and at the same time, enable banks to exert more discipline on firms' management, thereby improving their performance. This is true especially when banks have strong internal risk management systems and self-discipline, and the legal and judiciary infrastructures are adequately implemented, as exemplified in Germany or other European countries. On the other hand, banks' involvement in purchasing such stocks may aggravate connected lending at the expense of other small shareholders and creditors. Furthermore, a concentration of power in the banking sector may deter the development of domestic capital markets.
9. Derivatives activities do not generate new risks for banks, but they may lower

transparency by increasing the speed and complexity of transactions. Furthermore, the regulator may find it more and more difficult to contain risk associated with these transactions because of the extreme difficulty in understanding the nature and risk and the need to closely and promptly collaborate across nations. Further, since such activities are generally conducted by a limited number of large banks, the failure of one large bank as a result of engaging in derivatives activities as dealers may cause a systemic banking crisis.

10. The issuance of relatively long-term bank debenture may be suitable when the country has a sufficiently high rate of savings, yet investors in those countries are reluctant to diversify their portfolios given their strong preference to safe, liquid bank deposits. In such a case, long-term credit banks may play the role of transforming short-term funds into long-term investment projects if deposit-taking commercial banks purchase debentures, whose funds are allocated by credit banks based on commercial terms and internal risk management skills.
11. Initially, it may be desirable for the government to support bank debentures indirectly by using them in open market operations or qualifying them for central bank loans, in order to increase liquidity and confidence to public investors. However, such a support system should be terminated once markets become viable and demand for central bank loans by commercial banks decline, as demonstrated in Japan (although this system was established during the period of the low-interest policy and thus it may be still debatable whether such a system can be developed, at least initially, without such an interest rate policy.) It is crucial that the government should not intervene in the selection of the lending projects and should encourage long-term credit banks to terminate lending once it becomes clear that projects will not generate adequate incomes over time. Also, cofinancing can be used to enhance discipline on management of these credit banks. Such development finance contributes to not only promoting economic growth, but also to developing domestic bond markets.
12. Bank regulation in the intermediate financial structure should essentially take into account issues, such as how to protect public investors (minimizing conflicts of interest and improving transparency), how to avoid excessive concentration of power, and how to limit the transmission of the failure of securities businesses to banks. While enhancing disclosure requirements may help solve these issues, bank regulators need to adopt additional measures in the absence of adequate informational, legal, and judiciary infrastructures that are necessary for the development of sound capital markets. Those

include limiting the scope of services directly engaged in by banks, imposing capital requirements on nonbanking businesses (in addition to traditional banking business), limiting the extent of ownerships of banks by clients (and vice versa), and regulating the organizational structure of banking organizations.

13. Furthermore, prudential regulations and supervision should be supplemented with the use of more market-based indicators to evaluate the soundness of banks in Asian developing countries. This is because traditional indicators that are frequently used in industrial countries—such as capital requirements, liquidity requirements, and non-performing loan ratios—are not necessarily effective given that accounting, auditing, disclosure requirements are inadequately implemented; ownership of bank equity and subordinated debt are concentrated; and, their secondary markets are largely illiquid. In such cases, bank regulators should mitigate the deficiency of traditional indicators of bank soundness by adding new indicators. Those include deposit rates, interest rate spreads of banks, interbank rates, credit rating, and so on.
14. With respect to the scope of financial services (based on the variety of nonbanking services discussed above), regulators should consider the following two things. One is to make sure that those services, including traditional banking services, generate incomes independently from each other and also do not directly and intensively compete with each other. In the United States, for example, financial conglomeration by banks failed in the past because banks attempted to provide a one-stop center including traditional banking services, consumer loans, credit card businesses, mortgage lending, and securities businesses.
15. The other is to contain problems generated by the engagement of banks in nonbanking financial services, while enabling banks to maintain sufficient profitability. The bank regulator needs to examine the scope of nonbanking activities that can be directly engaged in by banks, as well as the type of services that should not be encouraged for the time being by taking into account the tradeoffs, until the necessary informational, legal, and judiciary infrastructures are developed to mitigate the problems associated with these activities. It may be desirable to impose legal separateness between traditional banking services and underwriting businesses owing to the potential problems of severe conflicts of interest. This is particularly relevant in Asia where the necessary infrastructures have not sufficiently established to mitigate these problems. Similarly, market making and dealing businesses are better conducted by legally separate firms.

16. Furthermore, the purchasing of stocks of nonbank firms should be controlled by setting a certain limit since this is likely to aggravate the connected lending and cronyism that are already present in some Asian banks owing to the presence of many family businesses conglomerates. However, such restrictions can be loosened once a separation between ownerships and management is clearly established legally with enforcement mechanisms. Derivatives transactions can be encouraged to take place at organized exchanges, or impose margin requirements and/or increase collateral if transactions take place at over-the-counter (OTC) markets.
17. Moreover, as securities and derivatives businesses increase, banks—particularly large banks that originate large-scale institutional and business loans—need to enhance their internal credit rating systems. This requires high levels of expertise and manpower as the systems involve gathering quantitative and qualitative information on highly complicated transactions, comparing them with the standards for each grade, weighting them in choosing a borrower grade, and supplementing this process by establishing mathematical models. Although many small to medium banks are likely to continue to engage in traditional banking lending to small and medium borrowers, consumer loans and mortgage loans are more likely to be pooled, securitized, and thus be liquidated. In line with this trend, regulators should adjust into a new environment by shifting their supervisory methods to more risk-focused ones.
18. As a part of regulatory frameworks for the intermediate financial structure, it is important to consider the appropriate organizational form of banking organizations. Theoretically, different capital requirements can be applied to various businesses conducted by banks and regulated accordingly. However, if nonbanking businesses are protected by deposit insurance systems as well, this may incur moral hazard problems, reinforcing banks' excessive risk taking behavior. Furthermore, regulatory arbitrage may emerge. These problems are serious, particularly in developing countries where regulatory capacity and expertise are too limited to cope with the variety of problems arising from nonbanking businesses. In this circumstance, it may be justified to regulate the organizational form of banking organizations for the time being. There are three major organizational forms of the intermediate financial structure or banking organizations: (1) universal banking, (2) banks with nonbanking subsidiaries, and (3) bank holding companies with nonbanking subsidiaries (BHC).

19. The universal banking model requires operational separateness among a variety of services rather than legal separateness. The regulator needs to contain various problems associated with nonbanking services either by applying different capital requirements or by playing the trading book approach adopted by Europe. The former requires banks to set higher capital adequacy requirements on banking services than securities services because the former incur liquidity and systemic risks, while the latter segregates securities trading book from the rest of businesses and makes trading book alone be subject to capital requirements. However, such differential treatments between different types of services may open to regulatory arbitrage especially in countries where inadequate accounting, auditing, and disclosure requirements are implemented with enforcement mechanisms.
19. Therefore, the universal banking model appears not suitable in Asian developing countries at least for the time being. Thus, the choice will be made between the bank with nonbanking subsidiary model and the BHC model, both of which separate banking businesses and nonbanking businesses with firewall provisions.
20. The bank with a nonbanking subsidiary model may be suitable in Asia for four reasons. First, banks may directly exert discipline on the management of their securities subsidiaries due to the limited ownership, while they are not able to do so under the BHC model. Second, it is cheaper to establish a banking organization under this model than the BHC model. Third, there is no strong evidence that firewall provisions of the BHC model were effective, especially when non-bank affiliates are in financial distress. This reduces the advantage of the BHC model over the bank with a nonbanking subsidiary model. Fourth, there appears to be a natural preference to this model over the BHC model in countries whose banks are free to choose any form. These factors suggest that the benefits of this model appear to exceed those of the BHC model, such as regulatory equality and ease of regulation.
21. The regulator should take an umbrella approach based on functional supervision rather than integrated regulations adopted in some industrial countries. This is because many Asian developing countries have not strengthened prudential regulations and supervisions in the banking sector yet. Thus, the integration of a bank regulator with other nonbanking regulators may lower confidence in the overall financial system, since such a movement may weaken regulatory capacities of the banking regulator. Furthermore, many countries have not established independence of regulatory regimes

including central banks. Thus, the integration of various relevant regulators without ensuring independence may weaken the quality of the overall regulatory regime and thus its credibility. The government should place priority on promptly strengthening the bank regulation, while improving regulatory capacities for nonbanking businesses.

I. Introduction

Over-reliance on bank loans has been viewed as responsible for the severe double mismatches (currency and maturity mismatches) and the Asian financial crisis of 1997-1999. A resultant widely prevalent policy conclusion is that Asian countries should reduce their dependence on bank loans and quickly develop securities markets as alternative sources of financing private investment. Indeed, bond markets do matter, since market-determined interest rates are critical for hedging various risks and forming the basis of pricing other financial assets, and achieving a more efficient resource allocation.

However, the fact is that it will take a long time before domestic securities markets, particularly viable domestic bond markets, are fully developed, for several reasons (Yoshitomi and Shirai, 2001). First, Asian countries are characterized as being abundant of a large number of small and medium enterprises (SMEs), with the extent of information asymmetry between ultimate investors and ultimate borrowers being generally large. When firms are small and relatively new, their past and expected returns are highly idiosyncratic and firm-specific. In this circumstance, their commitment to payments and thus creditworthiness as well as business prospects are largely uncertain. Since it is not easy to make such information standardized and thus transferable to ultimate creditors (or public investors), an information gap between ultimate borrowers and ultimate creditors remains large and thereby the former find it difficult to attract public investors without paying prohibitively high interest rates.

Second, the pace of financial asset accumulation has been relatively slow in a number of Asian developing countries, suggesting that the investor base in the corporate bond market is narrow and small. When a country's income per capita level is low and the economic development is still in the early stage, there are generally few households or individuals that are able to save their income, and thus saving rates are low. In this situation, households are highly risk-averse and prefer holding their assets in the form of safe, liquid assets, such as bank deposits. At the same time, the lack of diversified financial assets leaves them no other choice but to concentrate their financial assets on bank deposits. As their incomes increase, they increasingly diversify their assets to higher-risk and potentially higher-return assets, such as bonds, equity and derivatives.

Furthermore, institutional investors are hardly existent in Asian developing countries. The development of pension and insurance industries and collective savings funds is closely associated with the income level of the country. For example, the Republic of Korea has more

diversified and large financial institutions, including pension and insurance firms, investment trust funds, and mutual funds, compared with Indonesia and Thailand whose income per capita is much lower. These financial institutions are potentially important institutional investors in the corporate bond markets and generally constitute a major driving force to expand and diversify the investor base.

Third, developing viable corporate bond markets requires informational, legal and judiciary infrastructures that would ensure the confidence of public investors so that they are able to make own decisions confidently with respect to their investment and thus are willing to bear the risks. The confidence is enhanced if transparency is improved and a legal and judiciary infrastructure is established where public investors who are suspicious of false practices against their interest are able to appeal to courts at relatively low costs and cases are promptly processed. The infrastructure includes (1) securities laws that require issuers to use proper accounting and auditing standards, disclose relevant information promptly, and prohibit any false activities by issuers and market intermediaries (such as investment firms) against public investors; (2) judiciary systems (including court systems, lawyers, judges, etc.) that enforce the securities laws; and (3) the establishment of credit rating agencies and mobilization of well-trained accountants and auditors. Since such an infrastructure requires a high degree of sophistication and efficiency, it is likely to take a quite long time to develop it to a satisfactorily level.

These observations about Asian developing countries indicate that it is likely to take time to develop viable domestic corporate bond markets and thus the banking sector will probably remain dominant in the foreseeable future. It is generally viewed that the banking system emerges at the initial stage of economic development owing to banks' unique roles exerted in such a situation, as discussed extensively in Yoshitomi and Shirai (2001). The following question was then posed: what policies should the Asian countries adopt in these circumstances in order to minimize double mismatches and at the same time to develop corporate bond markets? Yoshitomi and Shirai (2001) have taken the view that Asian countries should strengthen their banking systems as a short- to medium-term solution, while in the meantime making efforts to develop a domestic bond market. Given the dominance of the banking system in these economies, furthermore, banks are likely to play a crucial role in the corporate bond market as well. In the foreseeable future, this suggests, the banking industry will be complementary to the development of corporate bond markets in Asia.

This paper refers to such a situation as the “intermediate financial structure” and analyzes how to improve the soundness of the banking system in such a structure by dealing with the

following issues:

First, the paper examines the issue of how the banking sector regulation should be modified or designed when banks play complementary roles in developing bond markets. Yoshitomi and Shirai (2001) have already examined the fundamental differences in legal, regulatory, and informational infrastructures between the banking system and securities markets and factors explaining such differences. The regulatory differences reflect fundamental differences of the nature between bank loans and corporate bonds.

Traditionally, relationship banks are regarded as important since they collect, analyze, and produce inside information and monitor their borrowers and thereby reduce the extent of severity of information asymmetry. Banks are encouraged to do this since they bear risk of financing ultimate creditors or firms. Banks attempt to influence the business policy of borrowers on an ongoing basis to safeguard their creditor rights by exerting monitoring capacities and advisory capacity, especially when borrowers are in financial distress. These relationships offset the problems of incompleteness of bank loan contracts that arise from the difficulty to specify all possible contingencies at the time that contracts are written. In fact, many aspects of the creditor-borrower relationships are implicit and hence unenforceable in the courts (Grossman and Hart, 1986).

By contrast, bond contracts need to specify contractually the contingencies, and bonds are evaluated on a liquidation basis. Since public investors—who are numerous, dispersed, and diversified—bear risk of financing issuers, the sophisticated information, legal, and judiciary infrastructures are necessary so that public investors are able to make choices over their investment with confidence. As a result, bond contracts need to be explicit, whereas bank loans are largely implicit. Furthermore, the performance horizon of market operations is generally shorter than relationship banks, thereby giving rise to greater instability in target results (Steinherr, 1996). This suggests that the risk of holding securities by public investors is coped with in part by improving the informational, legal, and judiciary infrastructure and developing information generating agencies, such as credit rating agencies and credit bureaus. Further, public investors can reduce risk they bear by diversifying assets, demanding short-term bonds, and requiring collateral on bonds. It is known that bank-dominated financial systems provide better intergenerational risk sharing, whereas market dominated system provide better cross-sectional risk sharing (Allen and Gale, 1995).

These fundamental differences are reflected in the differences in the purposes of regulations.

The bank regulation primarily focuses on how to limit excessive risk-taking by banks and limit systemic banking crises, while the securities regulation focuses on how to ensure the confidence of public investors. Based on the analytical framework developed by Yoshitomi and Shirai (2001) with regards to regulatory differences, this paper examine whether and how the bank regulation should be modified or redesigned when banks enter into nonbanking financial activities. In particular, it is important to examine what kinds of elements are necessary in the new regulatory framework in order to prevent banks from becoming so powerful that securities markets are crowded out, which might hinder the full-development of desirable securities markets. The paper also discusses newly emerging problems associated with nonbanking financial transactions performed by banks.

Second, the banking system is becoming more and more market-based in recent years, especially in industrial countries. Banks loans have become more liquid since the increased variety of securities has enabled banks to diversify their portfolios; a securitization drive has allowed banks to liquidate illiquid mortgage bank loans; the growing credit card industry and the emergence of credit bureaus have enabled consumer loans to be rated and thus to be liquidated; and, information technology has made it easier for banks to evaluate credit risk of their borrowers with more objective measures. In traditional banking, bank loans are characterized as long-term highly illiquid assets; thus, banks attempt to reduce credit and maturity risks through diversifying borrowers. Given the extensive illiquidity of the loan portfolio, consequently, banks face a greater need for larger liquidity holdings or liquidity support from central banks. The shift from relationships banks to market-based banks—although it may take time to realize in Asian developing countries—is likely to change the content and emphasis of the bank regulation. It is likely that regulatory differences will be smaller in this event than those prevailing when banks perform relationship lending.

Third, the organizational form of banking organizations becomes an important issue in the intermediate market structure. The traditional banking system does not require a minimum market scale to be able to exist, although there are opportunities for increasing returns to scale in gathering and producing inside information. For example, Diamond (1984) has indicated that the monitoring and control of a firm involves natural economies of scale, as a single bank can monitor and control the firm at least as effectively as thousands of shareholders, and much more cheaply. However, as banks enter into securities businesses, economies of scope and, to a lesser extent, economies of scale become main advantages in conducting new businesses. Therefore, the increased focus on securities businesses by banks may promote mergers and acquisitions (M&A) and give rise to megabanks. At the same time, new problems—such as conflicts of interest

between bank underwriters and public investors, a concentration of power to the banking system, the slow pace of financial innovation, spill-over effects of the failure of securities businesses to the soundness of the banking system, crowding out of small banks, and regulatory equality—may become increasingly pronounced. Thus, the selection of the organizational form of banks becomes one of the important issues in the bank regulatory framework.

Fourth, the paper attempts to focus on a bank regulatory framework that incorporate factors specific to Asia. Namely, the paper poses the following question: given the predominant family businesses in both banking and borrowing firms, what specific legal, regulatory, and informational infrastructures will have to be established for achieving a sound banking system. In other words, a key question is whether one size fits all, with regards to such infrastructures required for prudential banking behavior and preventing systemic crises. The paper examines measures to cope with these problems.

This paper consists of six sections. Section II focuses on the observations of the financial structure in four countries—Indonesia, Malaysia, Republic of Korea, and Thailand. In particular, the paper focuses on the role of the banking sector in their corporate bond markets. Section III discusses the issues related to the intermediate financial structure. Factors giving rise to new environments surrounding the banking sector are discussed. The section restates banks' essential roles and, since that they are likely to remain, stresses that banks are likely to survive even in new environments. Also, this section explores the possibility of nonbanking financial businesses performed directly by banks and examines advantages of the formation of financial conglomerates of the banking system or banking organizations. Section IV focuses on the difference between the bank regulation and the securities regulation by taking into account the nature of each financial system. Based on the analysis of the regulatory differences, it analyzes the new regulatory framework by focusing on the case where banks undertake nonbanking financial services. Section V highlights the issues on the organizational form of the intermediate financial structure. Section VI contains conclusions and discusses the implication to the Asian developing countries. While issues with respect to government-owned banks and denationalization of banks are important in Asia, this paper focuses solely on private banks to narrow the scope of study and leaves these issues in future research.

II. Observations—The Cases of Indonesia, Malaysia, Republic of Korea, and Thailand

The Asian economies are generally characterized as being heavily dependent on the banking sector. Before the crisis, bank loans as a share of GDP in Indonesia, Malaysia, Republic of Korea, and Thailand were consistently above those of the United States, accounting for about 35% of GDP (Chart 1). In particular, the size of bank loans increased rapidly in Thailand and Malaysia during 1990-1996—from about 60% each in 1990 to 100% and 90%, respectively, in 1996. The size of bank loans in the Republic of Korea has remained nearly constant at 40% of GDP during the same period.

< Insert Chart 1 around here >

After the crisis, the size of bank loans declined slightly in Indonesia and Thailand, owing to a cut in bank loans caused by the transitory banking sector restructuring process (Chart 2). Nevertheless, the sizes of bank loans in the four countries have still remained large. Given that alternative financing sources have been limited and unstable, this suggests that commercial banks will continue to be dominant financial institutions in the foreseeable future as well.

<Insert Chart 2 around here >

Furthermore, the banking sector is already playing a crucial role in the corporate bond market in Asia. Table 1 shows that banks are not only major investors of corporate bonds but also issuers, underwriters and guarantors of bonds. The importance of banks' roles as major investors is observed in both the official and corporate bond markets—particularly in the Republic of Korea, Thailand and Indonesia. Malaysia has a unique feature such that a single state-owned saving fund called “Employee Provident Fund (EPF)” has been dominant in both the official and corporate bond markets as the main investor. The presence of such a single dominant institutional investor suggests that its impact on pricing and maturity structures, as well as liquidity of those bonds is non-negligible. The banking sector is the second major investor after EPF in both the Malaysian official and corporate bond markets.

On the supply side, in Malaysia the issuer base is more diversified than the investor base ranging into various industries. By contrast, issuers are concentrated on the manufacturing sector in the Republic of Korea, reflecting the presence of relatively large and medium manufacturing firms that are able to issue bonds in a sufficiently large scale at relatively low costs. In the case of Indonesia and Thailand, banks are major issuers of corporate bonds (bank debentures). Finally,

banks were important guarantors on corporate bonds in Malaysia and the Republic of Korea before the crisis.

Investors of Official Bonds

In the Korean official bond markets (including treasury bonds and bills, foreign exchange stabilization fund, grain securities, and National Housing Bonds), banks including the bank trust department held around 50% of total bonds before the crisis and have been maintaining this share even after the crisis (Table 1.a). Most recent data—as of August 2000—indicate that 72% of government bonds were held by banks, 19% by the Investment Trust Companies (ITC), and about 3.5% each by insurance firms and securities firms (Jae-Ha Park, 2001). The total value of outstanding government bonds issued rose from an average of 24 trillion won in 1995-1996 to an average of 51 trillion won in 1998-1999, reflecting a rapid increase in the issuance of government bonds for financing expansionary fiscal policy, improving social safety nets, and implementing banking sector restructuring projects.

<Insert Table 1.a around here>

Among the type of investors, the banking sector has increased holdings of official bonds in the Republic of Korea. This reflects increased awareness toward a need to improve internal risk management by increased holdings of safer assets, a need to improve capital adequacy ratios, and a need to meet liquidity requirements. Since banks' capital level was already so low, banks invested in government securities and thereby did not have to worry about capital requirements. Other major investors—which are categorized under “other” including non-bank financial institutions, such as ITC and securities firms—also increased the purchase of government securities, since they began to recognize credit risks associated with corporate bonds and thus shifted their investment to higher quality bonds. Overall, the financial sector (together with the banking sector) has played a crucial role in the official bond market as the major investor.

In the Malaysian official bond market (including Malaysian government securities [MGS], Government Investment Issues, Khazanah Bonds, Malaysian Savings Bonds, Danaharta Bonds, and Danamodal Bonds), EPF has been the largest and dominant investor for more than 40 years. Table 1.b indicates that EPF has held more than 50% of total MGS issues before and after the crisis. EPF was established under the EPF Act in 1951 and obtains its resources from mandatory contributions by the employer and employees based on a percentage of the employees' wages.

<Insert Table 1.b around here>

Under the investment panel comprising of members appointed by the Ministry of Finance, EPF's investment policies and portfolios are determined. The panel is comprised of the chairman, representatives from the Ministry of Finance, Bank Nagara Malaysia, and three financial and investment experts. Since more than 50% of EPF's investable annual funds (flow resources) and no less than 70% of EPF's total investment funds (stock resources) had been required to be invested in MGS in the past, EPF had maintained at least 70% of its investment funds in the form of the MGS. In the pre-crisis part of the 1990s, however, EPF was allowed to diversify into other safe and relatively high yielding instruments, given that the mount of MGS issues was declining owing to the sound fiscal policy. As of the end of June 2000, EPF held 32% of the investment funds in MGS, 23% in corporate bonds, debentures, guaranteed loans, and promissory loans, 23% in the form of money market instruments, and 21% in the form of equity (Hamid, 2000). Despite the dominance of EPF, the banking sector is the second largest investor in the official bond market, accounting for more than 15% of the total MGS issues.

Commercial banks are the major investor in the Thai official bond market (including government bonds, FIDF bonds, and bonds issued for financial sector restructuring). Table 1.c shows that the banking sector accounted for more than 60 % of total official bonds issued in 1995-1996, although the holdings of official bonds dropped in terms of both the relative shares as well as the absolute value after 1997, reflecting a severe deterioration of their balance sheets and shortage of available funds. The Bank of Thailand (central bank) and FIDF were the third largest investor after non-bank financial institutions before the crisis, but have become the second largest investor since the crisis.

<Insert Table 1.c around here>

The dominance of the banking sector as the investor of government bonds has also been observed in post-crisis Indonesia. As of March 2001, the latest month where data were available, domestic commercial banks held 62% of total government bonds. Prior to the crisis, the Indonesian government did not issue any bonds given that fiscal surpluses were maintained. After the crisis, the government issued bonds to recapitalize weak banks, which were then purchased by Bank Indonesia (central bank) and then sold to commercial banks in exchange for their stocks—thereby not causing an increase in money supply. For these reasons, most government bonds have been held by domestic commercial banks, although some of them were later sold in the secondary market.

Investors of Corporate Bonds

In the Korean corporate bond market, the financial sector was the largest investor, accounting for about 90% of total corporate bonds newly issued before the crisis, and has remained the same after the crisis (Table 2.a). While detailed data on the classification of investors were not available for the period prior to the crisis, it is known that major investors were ITC, banks, and Investment Trust Management Companies (ITMC) (Shin, 2001). For the purpose of promoting capital markets, the government established ITC: two in 1970s, one in 1982, and then another five in 1989. Furthermore, the government introduced 23 ITMC during 1996-1997. ITC conduct businesses through issuing/selling beneficiary certificates directly to customers and forming/investing their trust funds in bonds, stocks, debentures, call loans, futures and so on. ITMC' businesses concentrate also on securities investment but they are not allowed to issue/sell beneficiary certificates. Both ITC and ITMC actively purchased corporate bonds, most of which were guaranteed by banks and securities firms before the crisis, while offering deposit-type fixed payments to their investors. Thus, these financial institutions were de-facto banks owing to their de-facto function of transforming fixed liabilities to long-term lending to private non-financial firms in the form of corporate bonds or equity.

<Insert Table 2.a around here>

From 1998 to the middle of 1999, the Korean corporate bond market experienced a temporary boom. In the process of restructuring the banking sector and a temporary loss of depositor confidence on the banking industry, some depositors shifted their financial resources from bank deposits to investments in ITC and ITMC. Based on the rapidly increased funds, ITC and ITMC have then increasingly bought bonds mainly issued by manufacturers, such as Daewoo, which desperately needed funding for their operations in the absence of bank loans. The bond market boom also reflected public perception that ITC and ITMC have never went bankrupt in the past and, even if they fall into financial distress, these institutions would be rescued by the government. This corporate bond market boom ended when Daewoo went bankrupt in July 1999. This failure encouraged investors to withdraw money from their funds. Massive demand for canceling the funds by investors caused some ITC and ITMC to fall into serious financial problems. As a result of restructuring the financial sector, the number of ITC declined from eight firms to three firms and the number of ITMC from 23 firms to 20 firms.

In Malaysia, EPF, which is categorized under the item of "others" in Table 2.b, has been the

dominant investor of corporate bonds. As of November 2000 (the only month where data are available), commercial banks were the second largest investor, accounting for 17% of total corporate bond issues. Combining commercial banks with financial companies, merchant banks and discount houses, the overall financial sector accounted for 25% of total corporate bond issues.

<Insert Table 2.b around here>

In the case of Thailand, detailed data on classifications of investors were not available. Based on available information and some estimates by Jantaraprapavech (2001), foreign institutional investors—mainly consisting of foreign banks—were the major investor of corporate bonds that were newly issued in 1995. Thailand was the only country that issued corporate bonds in international markets to a significant scale, and those bonds issued for foreigners were mostly denominated in US dollar or yen. After the crisis, the share of foreign investors in newly issued bonds dropped sharply from about 65% in 1995 to 9% in 1999 as a result of massive capital outflows driven by a loss of foreign investors' confidence (Table 2.c). Instead, the share of domestic investors—largely consisting of domestic commercial banks—rose sharply both in terms of share and value.

<Insert Table 2.c around here>

In the Indonesian corporate bond market, banks were the major investor, accounting for over 60% of total corporate bonds. Other major investors were insurance firms, pension funds, and mutual funds.

Issuers of Corporate Bonds

The size of Korean corporate bond market, measured by outstanding bond issues, was relatively larger than those of Indonesia, Malaysia, and Thailand before the crisis (Chart 3). The size of the corporate bond market expanded rapidly in the 1990s after deregulations on corporate bond issues induced firms to increase financing from bond markets than from stock markets. Dominant issuers were manufacturing firms, accounting for over 70% of total corporate bond newly issued in 1995-1997. After the crisis, the value of issuance of corporate bonds rose. The relative share of corporate bonds newly issued by manufacturing firms declined to 56% on average during 1998-1999, however (Table 3.a). During the post-crisis bond market boom, large manufacturers, such as Daewoo, issued substantial numbers of bonds. However, the corporate bond market stagnated after the collapse of Daewoo in July 1999 and the subsequent plunge in

investors' confidence in the investment trust industry.

Owing to a new wave of flight-to-quality phenomenon in the post-boom Korean bond market, demand for higher quality corporate bonds (as well as government securities) rose sharply and their interest rates declined accordingly. In contrast, firms with credit ratings of BBB or below faced difficulty in issuing corporate bonds, as investors became more sensitive to credit risk (Oh and Rhee, 2001). Furthermore, those bonds (mostly three-year bonds) that were issued in 1998 during the bond boom period were maturing in 2001 and the same issuers have found it very difficult to rollover their bonds, transforming their bonds into nonperforming debt and at the same time exacerbating credit crunch problems.

In response to the serious credit crunch problems, the Korean government intervened in the corporate bond markets by promoting securitization of corporate bonds held by ITC (Oh and Rhee, 2001). The government enacted the Asset Securitization Act in October 2000 for the purpose of helping the Korean Asset Management Corporation—an equivalent of the Resolution Trust Corporation in the United States—liquidate nonperforming loans held by troubled banks. Under this regulatory framework, ITC have heavily securitized nonperforming bonds to meet their redemption requirements that rapidly increased after the Daewoo crisis. This has given rise to a sharp increase in the issuance of “collateralized bond obligations (CBO)”, accounting for more than 60% of the total corporate bond issuance in 2000. CBOs are treated as corporate bonds since they are issued by “special-purpose vehicles (SPV)”. Most of these bonds, particularly senior bonds, are rated at above A and this upgrading is possible through pooling nonperforming bonds and thereby reducing risk.

Junior bonds are not entitled to receive principal payments until the entire principal of senior bonds has been paid off. The Korean government purchased these junior bonds through the government agency, mostly the Small and Medium Industry Promotion Corporation. Alternatively, the government converted junior bonds to senior bonds by providing credit enhancement with the help of the Korea Credit Guarantee Fund and Korea Technology Credit Guarantee Fund.¹

Another way to solve credit crunch problems of firms, the Korean government established the

¹ Furthermore, the Korean government established CBO funds in order to raise money and thereby increase demand for CBO. These funds are required to invest more than 50% in junior bonds. Thus, the government compensated for the credit risk involved by providing the funds with tax relief on interest income or privilege to get allocation of over-subscribed initial public offerings.

“collateralized loan obligations” scheme, through which bank loans can be pooled, securitized, and thus liquidated. While the main objective of both CBO and CLO is to mitigate credit crunch problems, the increase in the issuance of these bonds is likely to foster the development of the corporate bond market. In addition, the government also introduced “An Emergency Measure for Script Underwriting of Corporate Bonds” in 2001. Under this measure, the government has required the Korean Development Bank (KDB) to purchase one-year corporate bonds issued by troubled companies that have faced difficulty in rolling over their maturing debt. The candidate companies are to be selected by KDB and are expected to issue one-year bonds whose face value amounts to eight percent of the debt due. KDB then pools these bonds and securitizes them with credit support provided by the Credit Guarantee Fund. About 70% of the pool would be a senior tranche and thus be sold to investors, while the remaining 30% would be assumed by creditor banks of candidate firms and KDB (Oh and Rhee, 2001).

<Insert Chart 3 around here>

<Insert Table 3.a around here>

With respect to bank debenture in the Republic of Korea, commercial banks were traditionally prohibited from issuing bank debenture until 1996. Therefore, major bank debentures were issued only by the specialized state-owned banks—such as KDB, Korea Long-term Investment Bank, Korea Foreign Exchange Bank, and Korea Small and Medium Companies Bank. In the post-crisis period, only Korean Development Bank has been actively issuing bank debentures among specialized banks. In 1997, the government allowed commercial banks to issue bonds and since then the active issuer has been Korea Long-term Credit Bank (currently, Kookmin Bank).

In the case of Malaysia, issuers are well diversified compared to the Republic of Korea. About 60% of issuers are public listed companies and they are generally large. The remainder are private limited companies but most of them are affiliated companies or subsidiaries of publicly listed companies. Before the crisis, major issuers were transport, storage and communications sectors, construction sectors, and manufacturing sectors, accounting for 25%, 21% and 18% of newly issued bonds, respectively (Table 3.b). After the crisis, both the share and value of bonds issued by the manufacturing sector dropped sharply. Instead, the share and value of bond issued by the finance, insurance, real estate and business services sector and construction sector rose significantly.

<Insert Table 3.b around here>

In Thailand, the banking sector was the major issuer of corporate bonds, accounting for 31% of total corporate bonds newly issued. The share of corporate bonds newly issued by the banking sector rose further to about 50% on average in 1998-2000, reflecting a need to increase capital adequacy requirement and the fact that banks were allowed to issue subordinated bonds (Table 3.c). Banks have increasingly issued subordinated bonds, since those are recognized as Tier-2 capital.

<Insert Table 3.c around here>

In the case of Indonesia, the banking sector was the major issuer before the crisis although the total issue size was very small (Table 3.d). After the crisis, banks' share dropped to about 20% of total outstanding bond issues although the value of issue size increased. Instead, the issue size of the non-bank financial and infrastructure sectors rose rapidly. Some of newly issued bonds were issued for the purpose of restructuring firms by exchanging them with matured bonds.

<Insert Table 3.d around here>

Guarantors and Underwriters of Bonds

In the Korean corporate bond market, bonds were mostly guaranteed by banks and the Guarantee Fund before the crisis. The government introduced guaranteed corporate bonds in 1972 to ease financial constraints by initially authorizing Korean Investment Corporation to be a sole guarantor. The government later allowed banks also to become guarantors and about 50% of corporate bonds were guaranteed by banks in the 1980s. The relative importance of the banking sector as guarantors declined in the 1990s as non-bank financial institutions became major guarantors. However, most of financial institutions ceased to guarantee corporate bonds after the crisis, in part because of the imposition of a new regulation prohibiting securities firms from providing guarantees in 1998 and in part because of the increased awareness of the risk involved in guarantee businesses (Table 4).

<Insert Table 4 around here>

In Malaysia, about 50% of bonds were guaranteed in 1995 and about 10% were guaranteed in 1996. The guarantees were used to enhance credit ratings so that firms were able to issue bonds given a requirement imposed by Bank Negara Malaysia that all corporate bonds had to be rated at

least at a minimum investment grade (BBB or above). Major guarantors were banks while other guarantors were government and top-rated firms. After the crisis, most corporate bonds are no longer guaranteed owing to the banking sector restructuring process and a removal of the minimum investment grade requirement from July 2000.

In the case of Thailand, the banking sector did not play a crucial role as guarantors unlike Malaysia and the Republic of Korea before the crisis. This is because most bonds were asset-backed or secured, and most were sold through private placement. After the crisis, some bonds have continued to be guaranteed, but guarantees are mostly conducted by parent companies or affiliated firms of the issuers. Instead, banks have become increasingly important underwriters in recent years (Table 5). Banks have been permitted to underwrite bonds since 1993.

<Insert Table 5 around here>

Most of Indonesian corporate bonds were not guaranteed before the crisis and have remained so after the crisis. In the post-crisis period, only less than 5% of bonds have been guaranteed by banks or issuers' affiliated firms or parents' companies. Since all bonds are rated, guarantees were used to enhance their credit rating provided that ratings given to the guarantors are higher.

III. The Intermediate Financial Structure

The banking system is likely to remain dominant in Asia in the foreseeable future, given its historically important and advantageous position and the lack of well-diversified capital markets, as indicated in Section II. This suggests that the role of commercial banks cannot be dismissed when one considers how to develop the corporate bond market. Furthermore, it is also inevitable that those banks will enter into new businesses since their incomes from traditional banking services are likely to decline, as experienced in the United States and many other countries, in the presence of intense competition driven by financial market liberalization and deregulation. This section examines the intermediate financial structure, in which banks play a crucial role in the development of the corporate bond market in the short to medium term.

1. The New Environment Surrounding the Banking Sector

In recent years, fundamental and dynamic forces have been increasingly undercutting the traditional role of banks in financial intermediation. In the United States, for example,

commercial banks' share of total nonfinancial borrowing dropped from 35% in 1975 to 22% in 1994. The size of banks' assets in total financial intermediary assets declined from 38.5% in 1970 to 28.6% in 1994. Of this, the share of commercial banks declined sharply from 19.4% in 1970 to 7% in 1994. In contrast, the share of noninterest income in total income for commercial banks has risen rapidly from 23% in 1975 to 35% in 1994.

There are several factors behind the change in environment surrounding the banking sector. They are (1) deregulation, (2) the emergence of new markets and new players, (3) advances in information technology, (4) financial innovation, and (5) consolidation of the banking industry. While some of these trends are particularly present in industrial countries, such as the United States, Europe, and Japan, they are likely to become important in the foreseeable future in Asian emerging market economies and developing countries as well.

Banking Sector Liberalization and Globalization

Deregulation has diminished banks' advantage in acquiring funds. When deposit rates were set low by regulation in the past, banks could obtain funds cheaply and maintain sufficient interest rate spreads and margins. Under the deposit ceiling regulation, banks were often exempted from paying interest on checkable deposits and from paying high deposit rates. Since a major source of bank funds was checkable deposits, zero interest cost was advantageous for banks. In the presence of a high rate of inflation, real interest rates were even negative.

When the government began to remove deposit rate ceilings and opened up the banking sector, banks found it necessary to raise their deposit rates to compete for funds and at the same time to provide competitive lending rates. This has reduced their interest rate spreads and profit margins. As a result, some banks have found no choice but to increasingly extend credit to risky projects, such as real estate, to gain higher returns.

Competition has been intensified not only among commercial banks but also between commercial banks and different financial institutions and markets. This trend has been amplified further since borrowers have gained access to various sources of funding and countries have promoted deregulation in the financial sector. Deregulation has reduced geographic barriers to competition between commercial banks. In addition, the number of finance companies has been increasing and consequently, their share of business lending has been expanding.² As a result,

² Finance companies tend to offer relatively longer-term credit compared to banks and also give a focus on the sectors or areas of their lending activities (Rajan, 1996). This makes their operational

commercial banks have been forced to increasingly concentrate their businesses on liquidity provision, shifting away from traditional lending activities. This has contributed to reductions in commercial banks' profitability and to downgrading of their credit ratings.

Furthermore, commercial banks have begun to lose the opportunity to collect implicit rents that justify various risks they bear through providing staged financing or offering flexible, discretionary and repetitive bank loans, since bond markets provide an opportunity for firms to shift from bank loans to bond finance. To enable banks to maintain implicit rents and at the same time limit excessive risk taking, regulators usually regulate the degree of competition in the banking sector. A bank with market power has more incentive to alleviate the asymmetric information problem between banks and their borrowers by investing in monitoring of the projects of borrowers and establishing value-enhancing relationship banking. Since raising interest rates does not solve the problem of asymmetric information, banks may find it optimal to ration credit and select borrowers by collecting inside information about borrowers and monitoring them. This may increase the availability of credit to firms.

If banks expand their market power and achieve high profitability, they may become more conservative, moderating risk taking (Matuttes and Vives, 1998). Market power enhances the charter value of a bank, but at the same time, the value may decline if the bank takes more risks and fails. This possibility gives banks an incentive to be careful about their investment behavior. Thus, a regulator should be aware that competition can destroy the incentive to monitor and reduce lending. It has been pointed out that the recent decline in the trend of charter values due to deregulation and liberalization has been blamed on an increase in risk-taking behavior and thus failures in the banking sector from the 1980s [Keeley (1990) and Hellmann *et al.* (1997)]. For example, as margins eroded in the Savings & Loans institutions in the United States in the 1980s, they increased credit extended to risky activities and this caused bank failures. Since then, the regulator decided to allow risky activities only to well-capitalized banks by requiring an insolvency level below a certain limit. However, long-term relationships have become increasingly harder to initiate and maintain because banks cannot receive a credible implicit guarantee from their borrowers on the receipt of such rents (Rajan, 1992).

Advances in Information Technology (IT)

structure more transparent to their own investors than that of banks to depositors. At the same time, finance companies have a better match between interest income they receive on an additional loan and the cost of funding it, although they lose skills to extend credit outside their areas of focus. This partly explains why finance companies do not typically lend to high quality firms or make general-purpose loans, as banks do.

Advances in electronic trading technology have had various impacts on capital and financial markets. They have lowered the start-up costs for new trading systems and operating costs of electronic trading systems. In the past, securities transactions used to be conducted mostly at organized exchanges, where only members licensed by the exchanges could trade directly and sellers and buyers set prices at auction on trading floors. Members were generally comprised of large investment banks, brokerage houses, specialist firms, independent brokers, and a few companies, and it was difficult to obtain membership.³ On such traditional organized exchanges, the floor members have time and place advantages over those off the floor.

By contrast, on an electronic trading system, everyone is in the same cyberspace and thus, time and place advantages disappear. While some exchanges have adopted electronic trading and thus have no floor, electronic trading is frequently used at over-the-counter (OTC) markets. OTC markets, such as NASDAQ, consist of a geographically dispersed and diversified group of traders that are linked to one another by telecommunication systems. On NASDAQ, for example, dealers put quotations on computer screens and then receive orders from other dealers via computer links or over the telephone. Some broker-dealers are market makers, taking either bids or offers by quoting both prices. In the United States, participants in OTC markets must become members certified by the National Association of Securities Dealers and oversight by the Securities Exchange Committee (SEC). Although entities wishing to become members must have sufficient capital and demonstrate expertise, the application is open to anyone. As a result of advances in IT and resultant communication tools, the need for traders to be membership organizations is greatly reduced. Thus, market participants are becoming more and more geographically dispersed and diversified.

This suggests that advances in IT may promote the disintermediation of markets, since they provide a means for natural buyers and sellers to meet directly without intermediaries like market makers or specialists. Public investors now have access to securities through the internet, managed by small securities firms that specialize in trading. Various information about issuers are also available through the internet, which help public investors make their own analysis and decisions about investment. Consequently, the roles of intermediaries are likely to fade in importance, especially for the most liquid stock markets under normal market conditions, where there are both buyers and sellers. Meanwhile, they are likely to continue to play a critical role in maintaining orderly markets where trading interest is concentrated on one side of the market.

³ In the case of the United States, for example, insurance firms could not become members.

Furthermore, IT has enabled small firms to issue securities at relatively low costs. Banks and finance companies have begun to use credit scoring models, which use widely available information about borrower quality to estimate the likelihood that a particular small business loan will default, in order to underwrite loans to small businesses. While inside information obtained by relationship banks continue to be important, IT helps inside information become more standardized and thus lowered transactions costs of securitizing them (Mishkin and Strahan, 1999). Consequently, banks are likely to become more market-based.⁴

Information technology has also blurred the distinction between broker/dealers and exchangers, because brokers/dealers systems have become increasingly automated and broker-dealers have developed electronic trading systems that function very much like organized exchanges. It brings customers' buy and sell orders together and provides a means for customers to interact with each others' orders. These alternative trading systems have become real competitors of the traditional markets, although they operate largely outside of regulatory framework for exchanges.

Furthermore, information technology has made it easier for households, firms and financial institutions to evaluate the quality of securities. This has contributed to an increase in the investor base and thus, has made it easier for business firms to borrow directly from the public by issuing securities. Moreover, financial deregulation and innovation has improved the availability of information in securities markets, making it easier and less costly for business firms to issue securities. Domestic best corporate firms have thus increased access to foreign and offshore capital markets. This suggests that while banks will continue to play a crucial role in the intermediate financial structure in Asia, their relative importance may gradually erode as highly liquid securities markets are developed and advances in information technology facilitate more public investors to come in and reduce the role of dealing and brokerage activities.

The Emergence of New Markets and New Players

A number of large, profitable and established firms have begun to issue commercial papers to finance working capital instead of relying on bank loans because of the cost advantage. Meanwhile, money market mutual funds have emerged and indirectly undercut banks by

⁴ In the United States, large banks were the first to use credit scoring models for small business loans. They apply the models only to very small business loans, such as those under US\$100,000 (Mester, 1997).

supporting the expansion of competing finance companies that raise funds by issuing commercial papers. The growth of assets in money market mutual funds has created a ready market for commercial papers, because these funds must hold liquid, high quality, and short-term assets. A rapid expansion of the commercial paper market has enabled finance companies to expand their businesses and intensified competition with banks.

Junk bond markets also have grown in industrial countries and have taken businesses away from banks. In the United States, for example, in the past only Fortune 500 companies could raise funds by selling their bonds directly to the public, bypassing banks. Nowadays, even lower quality borrowers can raise funds in the bond market.

Furthermore, the move toward securitization has increased the number of nonbank financial institutions with the ability to securitize assets. The development of IT has enabled nonbank competitors to originate loans, transform these loans into marketable securities and sell them in the market to obtain more funding with which to make more loans. The IT revolution has reduced transaction costs and has enabled nonbank financial institutions to evaluate credit risk efficiently through the use of statistical methods, reducing banks' traditional advantages in collecting inside information about borrowers and monitoring them. In particular, credit risk can be evaluated using statistical techniques as in the case of consumer and mortgage lending. This is because return and risk structures of consumer loans can be relatively easily traced when credit card-based transactions are commonplace and credit bureaus are present. Furthermore, the return and risk streams of mortgage-related loans are relatively easy to identify and measure, and thus are transferable to public investors and market.

Moreover, banks may be able to liquidate part of their illiquid assets through securitization. Securitization allows a relatively riskier firm access to capital markets or to lower financing costs by segregating higher quality receivables or assets from the risky firm. The default rate of the receivables or the quality of the assets should be identified and measurable. These assets are placed in a trust or other legal structure, such as SPV, that is bankruptcy remote from the parent firm. The SPV issues securities that are collateralized by assets or receivables that are legally separated from the parent and therefore, its credit rating can be higher than the parent firm permitting it to issue securities at a lower cost (Wright *et al*, 1995).

Securitization can be used to make a firm's asset more liquid by transforming long-term assets such as mortgages, bank loans, and physical inventories into cash. This firm then can originate more mortgages or loans or purchase more inventory to grow its business. The typical

example is mortgage-backed securities, which channel funds from bond markets to housing markets. The increasing use of mortgage-backed securities is explained by the relative ease of standardizing information during the underwriting process.⁵ Malaysia has been already extensively involved in such securities. Moreover, securitization is finding its way into infrastructure and project financing where cash flow from the project (i.e. electricity tariffs, oil revenues, etc.) can be securitized and the proceeds used to finance project development. A claim generated by the project, as opposed to a claim on the physical asset as in a bond financing, may be less risky and thus a more attractive financing option (Wright *et al.*, 1995). Meanwhile, advanced securitization structures, such as the securitization of receivables to be realized in the future, are not yet widely accepted in developing countries (Kim, 1999).

Financial Innovation

Derivatives transactions have been rapidly increasing in recent years. Derivatives are financial contracts whose values are derived from the values of other underlying assets. They incur low transactions costs and are often used for hedging, speculating, arbitraging price differences, and adjusting portfolio exposures. Derivatives markets exist for forwards, futures, options, and hybrid derivatives. The type of assets underlying the contract include foreign exchange, interest rates, commodities, and equities. The volume of derivatives traded at exchange and OTC has grown rapidly in the world. A rise in derivatives reflects an opportunity to lower funding costs and enhance yields through arbitrage activities (such as swaps). Furthermore, exchange rates and interest rate volatility increased demand for market-risk management products. This trend was also supported by a continuing reduction in the cost of implementing arbitrage, hedging and other risk management strategies due to both financial deregulation and advances in communication and information processing technology. The development of valuation models for derivatives allowed derivatives participants more accurately to measure, price and manage their risk exposures.

⁵ Mortgage-backed securities issues include (1) collateralized debt, (2) pass-through obligations, and (3) pay-through obligations. In the case of collateralized debt, the market value of the asset (bond) is equal to the market value of the future streams of cash flow generated by the asset. In the case of pass-through obligations, the claim is in the form of an equity stake so that the timing and size of the amortization on the principal cannot be configured. The interest payment streams can be determined by the servicer and investors. Assets are conveyed to a special purpose trust that issues certificates to investors buying direct equity claims on the underlying assets. In the case of pay-through obligations, such as Cagamas Berhad of Malaysia, the payment stream of the underlying assets can be reconfigured to appeal to a broader range of investors. Assets are conveyed to a special purpose corporation that issues debt securities collateralized with the assets.

The main difference between derivatives and traditional financial transactions is not found in the type of risk to which they give rise, but rather in the speed at which these risks can be transformed and the complexity of the transformation process (Dale, 1996). The higher speed and the enhanced complexity reduce the transparency surrounding the transactions, which makes risk assessment a much more difficult task for internal management, external counterparties and regulators.⁶

The increased participation of banks in derivatives markets has generated a concern among regulators in industrial countries, reflecting a fear that derivatives may enable banks to take more risk. In 1994, many banks faced a substantial loss on interest rate derivatives instruments when interest rates continued to rise in the United States. By exercising leverage, banks generally use derivatives to place sizable bets on interest rate and currency movements. Since banks often behave as dealers in OTC derivatives markets, they may be exposed to substantial counterparty credit risk. Compared with organized futures exchanges, OTC markets offer no clearinghouse guarantee and set no margin requirements to mitigate the credit and counterparty risks involved in derivatives trading.

Consolidation of the Banking Industry

In recent years, a consolidation drive of the banking sector through mergers and/or branching has been increasingly observed in the United States. This drive reflects a deregulation move of the banking industry and an increased need for banks to expand their size, particularly for those engaging in securities businesses, in order to exploit the economies of scale and scope. The introduction of the euro is also likely to promote this drive in Europe, as it has increasingly intensified competition in the financial and capital markets.

While there are some concerns that the consolidation of the banking industry may lead to a reduction of competition and a crowding out of small banks, existing empirical studies have suggested that such trends do not hamper competition in financial markets (Lence, 1996). In the case of the United States, for example, Goldberg and Hanweck (1988) have concluded that the

⁶ For example, Barings failed in February 1995, partly because it was involved in large-scale derivatives business, though its senior management did not fully understand the risks involved in such transactions. The failure is also attributed to the fact that Barings was active in the Singapore, Tokyo and Osaka derivatives markets, yet local regulators communicated neither with each other nor with the UK regulatory authorities. The failure can also be related to the fact that there was regulatory confusion over the appropriate scope of consolidated supervision of Barings' mixed banking-securities business; in particular the way in which Barings' banking arm was able to fund

ability for bank holding companies (BHC)—the only types of banking institutions that used to be allowed to extend branches across states—did not show any long-run competitive advantages over other types of banks. Rose and Wolken (1990) have found that an affiliation with a geographically-diversified BHC provided no significant long-term comparative advantages for BHC subsidiaries over independent banks.

Furthermore, Calem and Nakamura (1994) have presented evidence that bank branching was even pro-competitive because price differentials across states were reduced. Similarly, Calem (1987, 1993) has presented empirical evidence favoring the notion that mergers and branching enhanced competition. Laderman and Pozdena (1991) have examined the response of stock returns of BHC to changes in interstate banking laws and have concluded that interstate banking increased potential and/or actual competition in the banking industry. Such new trends in the banking industry had positive impacts especially on large banks through an improvement of efficiency and also on borrowers and depositors through improved access to bank branches and gaining competitive interest rates.

With respect to the impact of such M&A and/or branching on small community banks, on the other hand, Lence (1996) has pointed out that the resultant increased competition in the banking industry will reduce their market shares, since small banks are less efficient than large banks to maintain profitability and offset operation costs. This suggests that small banks will have no choice but to raise their lending rates to maintain profitability. Contrary to Lence's conclusion, Moore (1995) has stressed that a relaxation of geographic banking restrictions did not cause small banks to lose more market share than what would be predicted based on historical patterns. Furthermore, Nakamura (1994) has pointed out that small banks are likely to survive, since they can offer deposit accounts to small firms, through which they gain better assess creditworthiness of their borrowers by monitoring cash movements of those accounts. Since large banks tend to focus less on small borrowers, the advantage of small banks is likely to remain and thereby they will remain profitable even though such loans can be more expensive than what large banks offer to large firms. In line with Nakamura's view, Calem (1993) has argued that small banks have advantages in servicing small borrowers because of their shorter lines of command and personalized services. Further, Lawrence and Klugman (1991) also have found no evidence that BHC competed unfairly over other small banks in rural markets.

While the evidence suggests that conglomeration of the banking sector have not crowded out

its risky securities operations in Singapore (Dale, 1996).

small banks in industrial countries, the issue should be carefully examined in the case of Asian developing countries, where there are relatively a larger number of small banks and SMEs.

2. Changing Roles of the Banking System

The Essential Functions of Banks

One of the essential roles of banks is to provide liquidity to borrowers and depositors. Every time customers or depositors wish to withdraw money from an automated teller machine or write a check, they rely on the bank's liquidity function. From the viewpoint of banks, there is very little difference between a demand deposit that an investor holds and a line of credit extended to a firm, since both require banks to pay the client money on demand (Kashyap, Rajan, and Stein, 1998). In this sense, we can say that banks provide liquidity on both sides of its balance sheet—to both depositors and borrowers.

A bank can achieve scale economies by using the same underlying reserve of liquid assets and the same institutional arrangements to meet the unexpected demands of both borrowers and depositors. The economies of scale works since the various demands are likely to offset each other, or equivalently, borrowers draw down a line of credit at different times from depositors, thereby economizing on the need to hold low-return reserves. In other words, there are complementarities between demand deposits and lines of credit for banks (Rajan, 1998). The more a bank does of one, the more it does of the other. Synergies between products arise because a bank can economize on holdings of liquid assets when the two products are jointly offered.

Another essential role of banks is to fund complex, illiquid positions. Banks use short-term deposits to make term-loans to borrowers, which are highly illiquid. This maturity transformation is possible, since banks establish long-term relationships with their borrowers and thus obtain inside information about their future prospects and return streams. In this way, they can lend to their borrowers more than other less knowledgeable lenders can do. It has been shown that the availability of credit to small firms increases with the length of their banking relationship (Petersen and Rajan, 1994). This kind of specific lending skills and knowledge becomes important when banks' credit loans to borrowers are highly illiquid and hard to sell to other potential lenders that do not have similar skills or knowledge. In the long-term relationships, more complicated intertemporal transactions—for example, staged financing, early repayments, refinancing even when borrowers are in financial distress—are possible than through explicit arms' length contracts.

It may appear that these two essential roles of banks are incompatible (Rajan, 1998). This is because to meet the first role, banks must come up with money on demand, while to meet the second role, they must undertake investments that are hard to liquidate because of their idiosyncraticity or dependence on specific knowledge. Thus, excessive investment in illiquid positions makes illiquid banks susceptible to inefficient runs. However, Diamond and Rajan (1998) have stressed that banks' specialized skills enable them to manage their complicated positions. Since banks have the ability to extract high implicit rents from their depositors and commit lower rents in the future by issuing demand deposits that are a hard claim and by providing liquidity, they can commit themselves to lower compensation for managing complex positions.

The Continued Presence of Banks

It is likely that banks will continue to provide traditional banking functions albeit to a lesser extent, while it is more and more likely that they will engage in these functions through the use of nontraditional products. Notwithstanding its declining share, thus, the banking sector is likely to survive in the Asian financial system for four reasons.

First, even reputable, large firms have an incentive to maintain relationships with commercial banks while issuing corporate bonds. This is because when firms fall into distress, it is likely that they will face a complete loss of credit from capital markets, while banks that form long-term relationships with these firms may continue to refinance them. This problem may be triggered even by a hint of financial distress. Moreover, small firms are likely to continue to depend heavily on bank loans because a corporate bond market is incomplete and is generally unavailable for relatively unknown, small firms, especially in the initial stage of bond market development.

Second, a large number of firms is likely to maintain checking accounts with commercial banks. This is because in addition to the continued high demand for banks' checking and settlement functions, firms tend to deposit checks for fear that they will not have a physical record otherwise (Rajan, 1996). In addition, commercial banks would continue to have comparative advantage in providing checking account services owing to their diversification capacity across liquidity demand. This explains, as Rajan stresses, why commercial banks still have value, even though money market mutual funds can provide depositors with unlimited liquidity on demand at lower costs since they commit to investing all their cash in extremely safe and liquid securities. While investors in money market mutual funds do not always require liquid cash at the same time,

money market mutual funds hold them in liquid assets. This leaves the liquidity of those highly liquid assets largely unused and generating inefficiency. Similarly, commercial banks may maintain value even though finance companies can provide longer-term finance to firms with their relatively longer-term liabilities. This is because finance companies provide financing, but do not provide liquidity insurance, which puts commercial banks in an advantageous position in meeting unexpected needs for finance by their customers.

Third, local commercial banks have more human interactions and give an impression of being more trustworthy and less technologically intimidating than advanced and larger foreign commercial banks or other financial institutions. Such services continue to be regarded as important by some firms and investors. Meanwhile, commercial banks are also encouraged to make efforts to attract depositors by creating innovation, for example by offering deposit services electronically.

Fourth, commercial banks increasingly play an important role in providing firms with lines of credit for the issuance of commercial papers. Commercial banks may be allowed to support the commercial paper market by letting firms issue corporate bonds directly and providing back-up lines of credit or letters of credit to assure investors of commercial papers that they will get their money back in the event of default (Rajan, 1996). In this case, commercial banks do not provide traditional lending services to firms, but indirectly support them through promoting securitization. To obtain lines of credit, firms might be required to maintain compensating deposit balances at banks up to a certain portion of the total credit or pay fees to banks for lines of credit. Commercial banks would maintain their basic function of arranging short-notice funding but the channel through which this service is offered would have changed considerably. As a result, non-interest income would take on an increasingly large share of commercial banks' total income.

Establishing Long-term Credit Banks⁷

When the extent of severity of information asymmetry is high, bank loans tend to be short-term. This is because banks use short-term credit as a way to discipline borrowers through refinancing. This discipline gives managers and owners of borrowing firms strong incentives to avoid bad outcomes and also increase efficiency by terminating unprofitable projects. Also, banks provide short-term loans more frequently in cases when the financial infrastructure is underdeveloped; information systems or contract enforcement mechanisms are absent; and,

⁷ Since this paper focuses primarily on private banks, the issue of state-owned banks such as development banks is not discussed.

accounting and auditing techniques are not adequate (Diamond, 1991). By being able to reprice bank loans, banks can obtain new information and thereby partially offset the inadequate infrastructure.

In contrast, long-term loans can protect borrowers from liquidation undertaken by imperfectly informed creditors and prevents opportunistic creditors from using the threat of liquidation to expropriate the profits of healthy firms. Hart and Moore (1995) have pointed out that firms attempt to match the maturity of their assets and liabilities to a certain extent to minimize a maturity mismatch. Therefore, the most effective ways to promote economic growth and long-term investment is to lengthen the market allocation of credit. Banks may overcome asymmetric information problems by developing long-term relationships with smaller firms and thereby gradually lengthening the maturity of bank loans over time. When financial markets are free from government intervention, banks tend to provide more long-term finance to profitable firms and monitor lower quality firms more closely by using short-term debt.

Furthermore, stock markets allow entrepreneurs the opportunity to substitute equity for long-term debt. Moreover, the prices in financial markets transmit information to creditors, and thus lending to publicly-listed firm becomes less risky and thereby increases the availability of long-term credit. If financial markets undersupply long-term credit because banks are unable to internalize the full benefits of monitoring the firm or because few people participate in financial markets, firms that wish to obtain long-term funding may be disadvantaged. In that case, long-term policy finance may be necessary. Aghion (1999) has pointed out that the problem of decentralized banks underinvesting in and undertransmitting expertise in long-term industrial finance can be mitigated with government support. Efficiency of government sponsorship can be enhanced if development bank intervention, co-financing arrangements, and co-ownership with private financial institutions are well-designed. Since state intervention might widen the scope for corruption and corruption leads to choice of non-viable projects, co-financing requirements can be used as one way to impose discipline on development bank managers.⁸

⁸ In Japan, for example, long-term credit banks, such as the Industrial Bank of Japan, were also established to finance long-term projects, although policy-based financial institutions—such as Japan Development Bank and former Export-Import Banks of Japan (now the Bank of International Cooperation)—were the most important for providing finance to industrial companies. The main source of funds for the long-term credit banks—of which Industrial Bank of Japan was the largest—was the issue of two types of debentures: one year discount debentures bought mainly by individuals and five year coupon debentures bought by financial institutions. Long-term credit banks also accepted deposits from financial institutions, but they were not permitted to take deposits from the general public.

The Japanese government supported the bank debentures under the Bank of Japan (BOJ)

3. Concept of the Intermediate Financial Structure

The observations in Section II have suggested that the financial structure that is likely to emerge in the short- to medium-term in Asia is one in which commercial banks will continue to provide traditional banking services, while becoming major issuers, major investors, underwriters, dealers/brokers, and guarantors in the corporate bond market (Chart 5). This situation is regarded as the “intermediate financial structure,” since it lies between a bank-dominant economy where banks provide largely traditional banking services, and a mixed-financed economy where a large number of borrowers have direct access to corporate bonds in addition to bank loans. There are several observations with respect to the intermediate financial structure.

<Chart 5 insert around here>

First, since banks can better handle the problems of information asymmetry by issuing and buying corporate bonds, it makes sense for banks to play a crucial role in the corporate bond market development especially when institutional, legal and judiciary infrastructures are underdeveloped. For example, when reliable credit rating agencies are not yet developed, banks can exploit inside information they already possess about their borrowers and help them issue bonds as underwriters. In this circumstance, while bank loans are substituted for prematured corporate bond markets, this substitution is compatible with the complementary development of the corporate bond market.

Second, complementarities between the banking system and the corporate bond market are present, also because there are few and diversified institutional investors and individual investors have no choices but to choose bank deposits as their financial assets in addition to their strong preference for such safe, liquid assets. Therefore, banks become virtually dominant financial

“Bond Qualification Procedures” which were adopted during 1949-1955. Under the system, BOJ preselected the banks that commercial banks could put up as collateral when they borrow funds from BOJ for the purpose of providing liquidity in the secondary bond market. This system encouraged banks to invest in bonds by improving the creditworthiness of bonds through regulating issuing volumes and maintaining the quality of bonds and at the same time providing BOJ loans to banks when the level of capital accumulation was still low (Koyanagi, 2001). At the same time, this helped to develop core heavy industries by enabling long-term credit banks to raise funds through debentures and allocate the funds to these industries. Long-term credit banks carefully screened new, venture-style industries and extended loans based on their demand forecasts (Koyanagi, 2001). The system was terminated when banks faced an increase in funds and thus borrowed less from BOJ.

institutions and large institutional investors. In an attempt to minimizing a maturity mismatch, they tend to hold short-term or liquid bonds if they decide to buy bonds. Thus, unless corporate bond markets are liquid, the maturity of corporate bonds will be shortened.

Third, the intermediate financial structure may work effectively in the short- to medium-term, but not in the long-term. As income levels rise and assets accumulate, the investor base expands and diversifies. Furthermore, as the size of non-financial firms expands and their profitability increases, these firms become able to issue bonds at reasonable costs. In this stage, non-financial firms are able to have diversified sources of financing and thus in a position to make a choice between bank loans and corporate bonds. This leads to a situation where bank loans are substituted for matured corporate bond markets, turning complementarity to conflicting substitution.

4. Increasing the Types of Businesses Undertaken by Banks

In response to declining profitability from traditional banking services, commercial banks should be allowed to expand their businesses into new areas in order to prevent excessive risk-taking behavior. Intensified competition and declined commercial banks' profits may lead to risk-taking behavior, unless new sources of income are provided (Allen and Gale, 2000).

Allen and Gale (2000) have stressed that extensive relationships involved in universal banking have been successful in Europe while financial supermarkets were unsuccessful in the United States. Suppose a bank provides loans to customers and a mutual fund provides investment products, and both have long-term relationships with their ultimate investors. In this situation, the extent of risk sharing through implicit contracts that can be achieved by both the bank and the mutual fund is limited by the future stream of profits that each will separately expect to earn in the future. To the extent that the current outcomes in each relationship (and hence the need for transfers under the implicit insurance arrangement) are independent, there will be a gain in combining the two relationships with ultimate investors. Then, the transfer to provide the implicit insurance that can take place in each division will depend on the future profits in the combined entity.

The success of a universal banking system, Allen and Gale (2000) argue, depends on the presence of a low degree of competition in the provision of financial services. Combined relationships in Europe have been successful to the extent that large future streams of profits are expected. On the other hand, several intermediaries in the United States attempted to establish

financial supermarkets where ultimate investors could obtain a whole range of financial services from the same provider. This is exemplified by Sears' purchase of Dean Witter in the 1980s, which gave it the ability to provide⁹ deposits, consumer loans, credit cards, mortgage banking, and commercial lending. Financial supermarkets—although offering a wide range of products and convenience through one-stop shopping—did not provide more implicit insurance because each service competed with others and contained unprofitable services as well.

There are several activities that may be undertaken by commercial banks. They include underwriting services, market making and proprietary trading, insurance businesses, and derivatives businesses.

Further, banks may issue relatively long-term bank debentures to finance long-term investment projects while minimizing a double mismatch. This role of banks may become important especially when individuals have a high propensity to save so that savings rates are quite high, yet they prefer holding deposits rather than securities. In such a case, commercial banks that accept deposits from individuals can purchase bank debentures issued by long-term credit banks, which in turn provide long-term loans. This transformation of short-term funds to long-term loans could contribute to economic growth, as was seen in Japan during the high growth period.⁹

Moreover, banks may engage mutual funds businesses. Mutual funds have increased rapidly in industrial countries. Like life insurance firms, mutual funds mobilize long-term savings and provide a low-cost method to diversify investment portfolios by pooling funds from many investors. Professional management of mutual funds allows investors to realize high returns.

⁹ Whether such long-term credit banks can survive without initial government support and the low interest rate policy, both of which were present in Japan, is an open question. In the case of Japan, BOJ's support not only helped long-term credit banks by increasing the investor base but also enabled them to become specialists in industrial finance, making strategic allocations of long-term funding that contributed substantially to the transformation of the Japanese industrial structure (Koyanagi, 2001). BOJ supported them indirectly by qualifying bank debentures for use as collateral on BOJ loans and by using them in open market operations. Also, the low interest rate policy enabled banks to maintain sufficiently large interest rate margins. More importantly, this helped increase liquidity of these bonds, encouraging commercial banks to hold bank debentures. Furthermore, by holding five-year bank debentures, commercial banks expected that long-term credit banks would supply the funds to their major client firms (Koyanagi, 2001). Consequently, commercial banks held about half of the five-year bank debentures during the high growth period, while the rest were held by a broad range of investors which were willing to purchase those highly liquid, safe assets.

5. Advantages of Financial Conglomeration

There are essentially eight advantages that can be gained by allowing banks to undertake securities and other financial businesses.

Minimizing a Double Mismatch and Promoting Economic Growth

First, it promotes economic growth by making available much needed long-term financing to commerce and industry, while banks minimize a maturity mismatch and maintain profitability. For example, if long-term credit banks are able to issue relatively long-term bank debentures, as exemplified by the Industrial Bank of Japan, they may contribute to transforming the industrial structure and accelerating economic growth.

Utilizing Information Advantages

Second, it promotes efficiency by allowing banks to utilize inside information. Information advantages or economies of scope in information gathering can be exploited. Banks possess information about creditworthiness of borrowers and features of their investment projects that are not readily available to outsiders. A bank that acts as an underwriter of a firm's bond issuance may be able to do so at lower costs, because it already knows about the firm through a lending relationship.¹⁰

Information and control advantages may also occur in a dynamic context. During the financial life cycle, a firm progresses from reliance on bank loans to the public issuance of common stock. Slovin, Sushka and Poloncheck (1992) and Petersen and Rajan (1994) have stressed that there are information cost advantages in having the same intermediary guide the firm through its cycle. Provided that the firm's financial service needs to change over time, it is economical to give intermediaries the flexibility to provide different services and hold various types of claims on the firm. Also, financial conglomeration gives banks an opportunity to gain

¹⁰ Some may argue that rating agencies have an incentive to provide accurate information and thus can reduce the extent of severity of information asymmetry in order to maintain their reputation, while firms are willing to incur the costs of that process because it gives them access to capital markets and so saves them the costs of contracting with a bank. However, some firms may not be able to reduce the information gap by making use of rating agencies, especially when production of information about these firms is too costly. In such a case, banks can save costs by gathering the relevant information about the borrower through long-term relationships. When banks monitor the firms, they make sure that the firms observe the conditions of the funding contracts and gather further information about the firms.

non-interest income, thereby sustaining profitability. This enables banks to maintain long-term relationships with clients throughout their life cycles and thus give them an incentive to collect and produce inside information and monitor them.

Exploiting Economies of Scope by Using Existing Capital

Third, banks can enjoy economies of scope from the production of financial services. Banks can spread the fixed costs in terms of physical and human capital needed for managing a client relationship over a wider set of products (Steinherr and Huveneers, 1990). Economies of scope can be exploited by using their branch networks and all their other existing delivery channels to distribute additional products at low marginal cost (Llewellyn, 1996). Also, banks can better handle the shifts in demand for the products they offer by quickly transferring resources within organizations (Santos, 1998). To the extent that it is easier to gain reputation in some businesses than in others and to the extent that there are spillovers in reputation, banks can use the reputation gained in offering one service to recommend their other services (Rajan, 1996).

Economies of scope can be also realized from the consumption of financial services. Consumers may save on searching and monitoring costs by purchasing a bundle of financial services. This form of savings has been important for reducing corporate finance costs historically. Restrictions on bank networks in the United States, for example, have made it impossible for banks to operate effectively as universal banks (Clamoris, 1995). There is an emerging consensus that while economies of scope are theoretically associated with universal banking, the empirical research results are unclear.

With regards to the evidence on economies of scope, Santos (1998) through a literature survey has found that the presence of economies of scope is mixed. Research studies on US banks have found little support for economies of scope in the joint production of commercial and investment banking services. This is attributed to the fact that those commercial banking organizations were allowed to offer only limited investment banking services and had to be housed in subsidiaries of BHC separated by an extensive set of firewalls from banks in the holding company.

On the other hand, research studies on Japan, Israel and other European countries have found stronger evidence of economies of scope in the joint production of these services [Clark (1988), Mudur (1992), and Forestieri (1993)]. However, Lang and Welzel (1996, 1998) have reported the absence of scope economies in German universal banks, although such economies were found in

small cooperative banks. Saunders and Walter (1994) have found diseconomies of scope between loans and fee-earning businesses for the world largest banks, many of which are universal banks. By contrast, Drake (1992) has reported that building societies in the United Kingdoms had diseconomies of scope.

Gaining from Diversification Benefits

Fourth, banks can obtain diversification benefits by diversifying their activities, thereby reducing the bank's costs of funds. Since income from different financial services are not perfectly correlated, diversification can reduce banks' costs of funds, which reduces the costs banks charge their lending and underwriting customers. Close multi-dimensional relationships between banks and firms can reduce the costs of obtaining funds for firms, improve their performance, make investment decisions less dependent on retained earnings, and make it easier for firms to resolve financial distress.

DeLong and Ramirez (1995) have shown that the value of the banking relationship for the firm was substantially reduced when the relationship narrowed to lending alone. Canals (1993) has found that increased revenue from new business units contributed to improving bank performance in recent times. Gallo *et al.* (1996) have found that mutual fund activities increased the profitability of banks. Benston (1989) has reported that returns for combined commercial and investment banking would be significantly higher, without a compensating increase in overall risk.

With respect to insurance businesses, banks thus have advantages in insurance underwriting by tapping their existing resources in areas, such as administration, investment management and human resources, and there is no need to add additional employees, systems or resources to generate and mail out premium notices. Banks also can automatically debit premium payments from checking or savings accounts of their depositors. Banks can capitalize on the trust individuals typically have in their banks by extending their customer relation to include insurance (Lown *et al.*, 2000).

Studies have found that bank entry into nontraditional activities, particularly insurance, could lower risk. Thus, combining banking and securities activities will lower the risk of banking organizations. Based on the US data of 1984 and 1998, Lown *et al.* (2000) have tested whether a better opportunity to diversify banks' businesses in the post-Gramm-Leach-Bliley Act period

would improve risk-return trade-off faced by financial companies.¹¹ Saunders and Walter (1994) have found that expanding banks' activities reduces risk and furthermore, the main reduction of risk arises from a combination with insurance services rather than a combination with securities activities. Boyd *et al.* (1993) have found that simulated mergers of BHC with life insurance and property/casualty insurance firms may reduce risk, whereas mergers of BHC with securities firms would likely increase risk.¹²

In Europe, banks have entered into the life insurance industry during the past few decades reflecting a drive to utilize the scope of economies, and have been successful so far. Life insurance premiums grew more than 10% per year in eight of twelve EC countries (Lown *et al.*, 2000). This growth seems to have been sustained due to rising income and wealth and rising share of older people. Banks have advantage over traditional independent insurance sales agents, since sales personnel with fixed salaries are less expensive than traditional brokers who receive commissions. Also, the advantage is bolstered by the economies of scope based on bank branch systems, customer information, administration and trust. Banks can use customer information to tailor their sales approach and target products to individuals.

¹¹ Since the middle of the 1980s, the regulator in the United States has begun to loosen restrictions on bank participation in investment banking and insurance. Before 1986, state insurance regulators imposed limitations on national banks' insurance sales and underwriting. Subsequently, the Office of Currency Comptroller (OCC) argued in 1986 that a previously overlooked section of 1917 National bank Act can be used to allow national banks to sell insurance anywhere under the condition that one of its branches be located in a town with less than 5,000 people. In 1993, US Court of Appeals ruling upheld the OCC decision. State regulators continued fighting the court decision until a 1996 Supreme Court ruling upheld it. Since 1996, the ruling has forced state legislatures to level the playing field by passing new laws that allow both national and state-chartered banks to sell insurance through subsidiaries or directly through bank branches. As a result, BHC increased their share of securities industry's total revenue from 9% to 25%.

¹² Based on US data during 1970s and 1980s, Boyd *et al.* (1993) have concluded that mergers between bank holding companies (BHC) and life insurance firms would likely decrease BHC bankruptcy risk, while mergers with other types of financial firms would likely increase the risk. Constructing hypothetical, pro-forma mergers between BHC and firms in each of the other three major financial services industries (life insurance, property/casualty insurance, and securities), mergers between BHC and life insurance firms will produce firms that are less risky and no less profitable than those in either of the two individual industries. While banking and life insurance businesses give lower profits than investment advice business and securities, their risk is lower. Given the highly regulated nature of the banking industry, it makes sense that this industry proves to have the lowest risk among the group. This is because regulators tend to encourage mergers when a banking firm is weak and therefore, there is likely less recorded evidence of firms close to failure than would otherwise appear in the data. Insurance and property/casualty insurance are also highly regulated. Thus, the statistics for combined firms show that mergers between BHC and life insurance are likely to provide firms with less risk than others. This result supports a combination of banks and life insurance firms.

Reducing the Conflicts of Interest between Stockholders and Creditors

Fifth, banks may be able to reduce conflicts of interest by holding stocks of their clients. Also, a bank that owns stocks of a firm can lend to this firm at lower cost, because its power of control as a stockholder permit it to protect its interests as a creditor. If a borrower experiences financial distress, the fact that the bank controls this firm's stock can reduce potential conflicts of interest between stockholders and creditors in developing a reorganization plan.

However, the realization of this benefit depends on the presence of banks' incentives to control moral hazard problems. One of the common features shared by Japanese and German banks is that both of them have played a crucial role in extending loans to non-financial firms and they have been connected through equity ownership. In case of Japan, those banks are called "main banks" while in Germany, they are called "housebanks". At least until the early 1980s, the Japanese system worked well in the sense that this financial market created a competitive, efficient and effective commercial banking system (see Appendix I).

In the case of Germany, the empirical studies have suggested that German banks' control rights have positively affected firms' performance. The equity ownership by banks as a group is low. While they can increase control through the use of proxy voting, those studies have found no evidence of the existence of conflicts of interest between banks' use of proxy voting and shareholders' interests.

Achieving Operational Efficiency

Sixth, it promotes competition by opening up various areas of finance for entry by banks. Financial conglomeration may improve "x-efficiency" or operational efficiency (Vennet, 2000). With regard to cost advantages, Berger and Humphrey (1991) have documented that technical efficiencies and allocative efficiencies may be large and even dominate scale and product mix economies. Thus, increasing competitive pressure and technological advances force banks to shift to an institutional form that allows maximum x-efficiency. If specialized financial firms (banking, insurance, securities businesses) are sheltered from M&A due to legal barriers to takeovers, inefficient managers may be protected and agency costs high. If cross-activity mergers are allowed, managers of financial firms are encouraged to implement their stronger monitoring capacity in the presence of the takeover market. Saunders (1994) has argued that allowing banks to be acquired by other financial companies or even commercial firms would impose monitoring and create incentives for efficiency and value-maximizing behavior. Armourd (1985) and Akella

and Greenbaum (1988) have stressed that takeovers will reduce expense-preference behavior, which has been found to be present in banking. Vennet (1996) has found that in the EU, bank mergers improved rationalization.

Berger and Humphrey (1997) have surveyed 130 studies on efficiency, using data from 21 countries over multiple periods. They have shown that average inefficiency in banking ranges between 20-25% of total costs. Berger, Hancock and Humphrey (1993) have found that larger banks are more efficient. Allen and Rai (1996) have documented wide variations in country-specific efficiency for 194 banks in 15 countries and have found that large banks in separated banking countries (countries prohibiting the integration of commercial and investment banking) were less efficient than other bank groups during 1988-1992. Benston (1994) has pointed out that the data on the presence of x-efficiency indicate some advantage for universal banks over specialized banks. However, he has admitted that, with regard to the ability of specialized banks to survive, the efficiency advantages of neither form of banking appear to be overwhelming.

Based on a full sample consisting of 2,375 EU banks from 17 countries during 1995-1996, Vennet (2000) has found that specialized banks appear to exhibit no disadvantages relative to financial conglomerates in traditional intermediation activities, although the latter are most cost efficient when nonbanking activities are taken in account. Vennet also has found that universal banks had higher average levels of operational efficiency relative to specialized banks and this finding was most pronounced for the non-German universal banks. These universal banks also dominate their non-universal competitors in terms of profit efficiency. The analysis of equity market data suggests that at least part of the superior profit efficiency of universal banks is related to the comparative information advantage acquired through their corporate insider status. There are large unexploited scale economies for small banks, especially in specialized banks, whereas for universal banks and other financial conglomerates, there are neither scale benefits nor disadvantages. Bank sizes for which no diseconomies are found are higher than reported for the 1980s. As a result, the continued expansion of financial conglomerates and universal banks in Europe, as a response to the introduction of the euro is likely to lead to a more efficient financial system since competition should induce these banks to further strengthen their cost and profit efficiency.

Improving the Composition of Input Choices

Seventh, it will lower the adverse effect of high costs of external finance on the composition

of input choices. High financing costs encourage firms to inefficiently substitute material and labor inputs for fixed capital (Carpenter, Fazzari and Petersen [1994], Calomiris, Himmelberg, and Wachtel [1995], and Calomiris and Himmelberg [1995]). Moreover, industrial buildings and equipment are considered less desirable inputs than materials and accounts receivable for a financially constrained firm, because they are less liquid. This may affect the pace of industrial growth.¹³

Exploiting Economies of Scale

Eight, financial conglomeration may stimulate the growth of banks and thus realize economies of scale. Economies of scale exists if assuming a constant product mix, a bank faces declining average costs as its size expands. Technological advances may be a catalyst for increased size. In general, studies of US banks cannot provide evidence on the cost characteristics in non-specialized financial institutions, because regulatory constraints have historically prohibited financial conglomeration and universal banking. Based on non-US data, Saunders and Walters (1994) have found economies of scale up to US\$ 25 billion in loans for the world's 200 largest banks. Vennet (1994a) has found similar results for a sample of 1,500 EU banks. Lang and Welzel (1996, 1998) have found scale economies among German universal banks up to a size of GM5 million and also significant scale economies for a sample of relatively small Bavarian cooperative banks.

IV. Regulatory Frameworks for the Intermediate Financial Structure

Based on the work of Yoshitomi and Shirai (2001), this section briefly discusses features of the bank regulation and the securities regulation by considering their differences. Furthermore, it points out fundamental changes that the banking sector has been experiencing under domestic financial market liberalization and capital account liberalization, information technology

¹³ For example, in the pre-WWI period, in Germany and the US the composition of tangible capital was consistent with the idea that low costs of industrial finance would be reflected in input choices. Compared with Germany, the United States relied more on labor and materials than on hard-to-finance equipment. During the late 19th century, US nonagricultural producers increased output and labor at the same rate, but in Germany nonagricultural output rose twice as fast as labor input. This indicates that in the US the inventory to fixed capital ratio was much higher than that of Germany during this period. In addition, Germany enjoyed greater benefits from expanding quickly and reaping economies of scale. In the electrical industry, in particular, Germany expanded rapidly and took advantage of scale and network economies in constructing its electrical utility industry, while US industry developed inefficiently.

development, and financial innovation. Given the rapidly changing environment, new elements that a regulatory system should take into account are examined. It then examines regulatory frameworks for the intermediate financial structure.

1. Bank Regulation

One of the fundamental differences involves how to cope with the problems of information asymmetry between ultimate creditors and ultimate borrowing firms. In the case of bank finance, the ultimate creditors are depositors who make an investment in the form of deposits with commercial banks. However, it is not the depositors but the banks that directly bear the risks associated with lending to borrowing firms. Commercial banks cannot transfer such risks to depositors, although they are intermediaries between deposit-taking and loan extension businesses (Yoshitomi and Shirai, 2001).

Commercial banks manage their own risks associated with extending credit to borrowing firms through three actions: (1) monitoring, (2) taking collateral, and (3) loan diversification. In order to monitor effectively their investment projects, commercial banks need to obtain useful “inside” information about the borrowing firms’ strategic planning, management performance, profitability, and asset holdings, etc. Access to such inside idiosyncratic information can be obtained through conducting repeated transactions that establish long-term relations with borrowing firms. Since banks bear risk in extending credit, they may have incentives to increase credit allocations to risky projects, especially when they are close to financial distress. This suggests that the bank regulation should focus on how to limit banks’ excessive risk taking behavior; how to limit systemic bank crises and disruptions of payments systems, how to maintain financial and economic stability, and how to protect depositors. The need for the regulation reflects unique features of the banking system such as the fact that a large amount of credit increases the risk of failure or insolvency, while dispersion among small investors limits their ability to monitor the bank activities.

The main purpose of bank regulation is to prevent bank failures and to sustain banks as going concerns. This reflects the fact that if a bank is forced to liquidate its highly illiquid assets, it may face no choice but to sell them at a heavy discount. Traditional banking involves the acquisition of long-term non-marketable loans, which are held on the balance sheet until maturity.

Social Safety Nets

A deposit insurance system is used in many countries in order to help prevent banks from falling into insolvency and limit systemic banking crises. Compared with investment firms, banks are uniquely vulnerable to contagious collapse. Banks' inherent fragility arises from a maturity mismatch and also the lower value of banks assets in liquidation than on a going concern basis.

When banks are short of liquid assets in the face of a massive withdrawals of deposits, they may find it necessary to sell their illiquid assets, giving rise to fire sale losses that may exceed their small capital base and thereby make such banks insolvent. This kind of bank run can occur even without the release of adverse information about the bank's assets. If depositors fall into panic, they withdraw funds out of fear that other depositors will do so first, forcing an otherwise sound bank into bankruptcy (Diamond and Dybvig, 1983). Bank failure can arise from the fact that they cannot completely diversify the risk associated with their assets because markets are incomplete or because their monitoring technologies are not perfect. In such a case, a run may occur if depositors feel that the value of a bank's assets is too low.

A bank run is costly because it forces the premature liquidation of assets, disrupting the production process and generating contagion runs, and culminating in a system failure. Thus, to prevent costly bank runs, protection of depositors either through formal deposit insurance schemes or through less formal support operations is necessary. Furthermore, the lender of last resort and regulations of the payment systems can be utilized. The rationale for rescuing banks is placed on banks' function as providers of liquidity services. When the liquidation value of a bank's portfolio of assets is lower than the value of liquid deposits—a necessary condition for the bank to provide liquidity, it may face bank run (Santos, 1998).¹⁴

However, such rescue measures may undermine market discipline. They may reduce depositors' incentives to monitor banks and give banks risk-shifting incentives when it charges them premiums that do not reflect their risk. Therefore, it is important to carefully design appropriate systems of deposit insurance. Poorly designed deposit insurance systems would reduce depositors' incentives to monitor banks and encourage banks from lending to risky

¹⁴ Furthermore, Krosner (1999) has stressed that the banking system becomes fragile without safety nets is exaggerated for several reasons. First, bank failures spread throughout the banking system only if bank losses exceed bank capital by a certain amount. Thus, mere weakening of banks does not necessarily generate systemic banking crises. Second, history shows that before the lender of last resort was introduced in the United States, the rate of bank failures was less than that of nonfinancial firms and losses to depositors and other bank creditors were lower than those to creditors of nonfinancial firms. Moreover, banks held higher capital-to-asset ratios prior to the

projects. Such systems would allow regulators to engage in regulatory forbearance by delaying the imposition of sanctions on troubled banks and permitting insolvent institutions to continue to operate. Moreover, flat premium deposit insurance tends to make banks more aggressive by increasing the elasticity of the residual supply of deposits they face. Risk-based deposit insurance moderates risk taking incentives, but it is possible that banks will still take too much risk in the presence of a large social cost of failure. Capiro and Levine (2000) have found that generous deposit insurance schemes are very strongly and negatively linked with bank stability.

Prudential Regulations and Supervision

To help contain risk taking by banks and mitigate moral hazard problems arising from the social safety nets, regulators need to remove any policy measures that have distorted banks' incentives to monitor their borrowers. Yoshitomi and Shirai (2001) have identified that government intervention in directing lending by banks and rescuing all banks regardless of their viability have discouraged banks from collecting and producing information regarding their borrowers and monitoring them. Furthermore, banks are often owned by borrowers who constitute family business networks and thus are prone to connected lending. Thus, it is important for regulators to remove those distortionary policies and set a clear separation between ownership and management.

Only after mitigating these problems, regulators should introduce prudential regulations and supervision adopted in industrial countries, many of which are also used to preserve solvency and can serve to prevent systemic economic disruptions. Those include disclosure requirements, capital requirements, portfolio restrictions and diversification requirements, general standards of conduct on firms and their employees (prohibiting unsafe and unsound practices), and periodic reporting requirements with on-site examinations. These prudential regulations are supplemented with a regulatory review of both applications to establish new banks and competitive conditions in the markets they propose to enter (Appendix II with respect to capital requirements).

Nevertheless, many emerging market economies and developing countries have inadequate informational, legal and judiciary infrastructures that are necessary to restructure the balance sheets of the banking sector, making it difficult to perform prudential regulations and supervision. First, legal requirements for the independent auditing of financial statements on banks are inadequately implemented (Frankel, 1998). Even if implemented, the performance is low due to

introduction of such safety nets.

the lack of enforcement mechanisms. Second, the implementation of sophisticated accounting systems is inadequate, reducing the quality and timeliness of financial data. Third, well-developed liquid asset markets—such as inter-bank, real estate, and stock markets—are missing so that the validity of financial information about banks is low. Therefore, regulators must use their own estimates of values of banks rather than objective, transparent, market-based observations. Similarly, banks must use their own estimates of company values of their borrowers. Fourth, values of corporate transparency, avoidance of conflicts of interest, and safeguarding of corporate assets are not fully ingrained in some of the emerging market economies. Fifth, banks have not developed sophisticated risk management systems.

Disclosure Requirement

Disclosure requirements for the risk position of a bank may help mitigate risk-taking behavior. This is because well-informed depositors may enhance discipline on banks. More information disclosure may induce information-based runs of depositors. If depositors' discipline works and rating agencies are present, banks that receive low evaluations from depositors and independent rating agencies have to compensate their depositors with higher deposit rates if they want to prevent a withdrawal of deposits. Withdrawals by informed depositors would force troubled banks to sell assets quickly and to take on fire sale losses. Thus, if those banks cannot satisfy depositors' demand in full and on time, they would end up closing their businesses either voluntarily or at the order of regulators. Allowing foreign entry may improve banks' discipline and thus transparency (Appendix III with respect to foreign entry).

Bankruptcy Regimes

Rules for corporate debt workouts and the absolute priority rule are very important not only to smoothen the bankruptcy process, but also encourage banks or other creditors to extend credit to domestic borrowers and make better credit decisions among potential borrowers (Frankel, 1998). Since work rules give banks incentives to collect inside information about borrowers and monitor them, the effectiveness of interbank markets is strengthened as a way to effectively discriminate between strong banks and weak banks.

With respect to corporate debt workouts, Krosner (1999) has pointed out that private debt covenants or explicit provisions in debt contracts would help restrict borrowers behavior and their ability to take risks. In practice, banks often include such provisions in their own loan agreements with borrowers and covenants are triggered as soon as earnings or capital fall below pre-specified

levels or leverage rises above such levels. In some cases, covenants allow the debt holders to seize control of the firm as it experiences financial distress. Thus, covenants prevent a distressed firm from continuing to operate as it did before and attempt to prevent it from increasing its risk exposure. Also, they reduce moral hazard by having the system mimic private bond covenants that limit risk-taking behavior as firm capital declines, building on the first steps taken in this direction by FDIC Improvement Act of 1991.

The absolute priority rule provides for the retention of the priority of claims that are established in normal times and applied in bankruptcy. Under the rule, the most senior creditors are paid off before anything is given to the next senior creditors and this process continues until no creditors are left before the shareholders. When this rule is frequently violated in a given legal structure, owners or managers lose incentives to improve their firms' performance and thus avoid bankruptcy since there will be little differences in outcomes between the bankruptcy and non-bankruptcy states. This suggests that creditors such as banks are less favorably treated than in the absence of violations of the rule. Badly structured bankruptcy regimes can thus result in the increased likelihood of bankruptcy and reduced recoveries in states of bankruptcy, reducing the attractiveness of companies from the aspects of creditors of debt positions.

If domestic banks have more information than do foreign banks about domestic companies with respect to the likelihood of bankruptcy, foreign banks are willing to fund such domestic banks, which in turn extend those funds to domestic borrowers. When the absolute priority rule is violated, the advantage of domestic banks over foreign banks becomes even larger.

Frankel (1998) have stressed that Asian countries have a high tolerance for violations of the absolute priority rule, as exemplified by the Thai case in which creditors for a Thai firm with \$330 million in debt forgave 95% of the debt while shareholders retained an equity stake in the company. Such tolerance reflects the power of the dominant shareholders in the company to veto any proposed restructuring arrangements, and this is a widely recognized shortcoming of Thai bankruptcy arrangements. A similar problem is observed in Korea, where the managements of bankrupt *chaebols* and other large Korean companies have been able to apply for court mediation which, when granted, has permitted them to stay in place. Such practices also violate the absolute priority rule since control rights of corporate assets have not been transferred to new owners of restructured companies.

Moreover, Rajas-Suarez and Weisbord (1996) have stressed that the regulator should make sure that bank restructuring programs adopt three basic principles. The first is to ensure that

parties that have benefited from risk taking, such as shareholders and large holders of long-term liabilities (e.g., subordinated debt) bear a large portion of the cost of restructuring the banking system. The inclusion of these large liability holders of money market instruments reflects the view that they must be inevitably subsidized to some extent because the money markets must continue to function for the payments mechanism to continue to function. These parties should be first to lose their investment. Also, delinquent borrowers must not be given favorable treatment at public expense. This principle helps reduce current restructuring costs by forcing private parties to bear part of the loss, as well as create them incentives to restrain risk taking in the future.

The second principle is to promptly prevent problem banks from expanding credit to highly risky borrowers or capitalizing unpaid interest on delinquent loans into new credit. This helps reduce moral hazard problems in bank restructurings that arise when banks with low and declining net worth continue to operate under the protection of public policies designed to maintain the integrity of the banking system.

Since the first two principles require the regulator to hold adequate funding to pay off some liability holders of banks, the third principle stresses that bank restructuring should be given priority in terms of public resource allocation, while avoiding a sharp increase in inflation.

Leading Indicators of Banking Problems

Indicators of bank strength that are adopted by bank regulators in industrial countries can be summarized in five key variables—capital adequacy, asset quality, management, earnings, and liquidity (so-called “CAMEL” system). These indicators are useful to assess bank soundness as long as best accounting standards and reporting requirements are practiced. Otherwise, misclassification of non-performing loans can occur, and reserves against credit losses can be underprovisioned. Furthermore, an adequate legal and judicial infrastructure is necessary for regulators to take supervisory actions.

Thus, a lack of adequate accounting, auditing and reporting requirements explain partly why there was a lack of awareness among market participants and regulators in Asia that the growing concentration of foreign bank loans to unhedged borrowers would cause serious banking crises once the exchange rate depreciated sharply. For example, Rojas-Suarez (2001) has reported that the mean ratio of risk-weighted capital to assets amounted to as much as 8.1% in 1995-1997 for Thai banks that experienced a crisis later on (crisis banks) and this ratio was higher than for those Thai banks that did not experience a crisis (non-crisis banks). In the Republic of Korea, those

ratios reached 7.9% for crisis banks and 8.3% for non-crisis banks. Similarly, liquidity ratios were about 9.5% for both types of Thai banks. While non-crisis banks had higher liquidity ratios than crisis-banks in the Republic of Korea, these ratios were quite high for both (21.4% and 18.4% each). Moreover, operating costs to assets were about 4.5% for both Thai banks, while the ratios were lower for Korean crisis banks (3.0%) than non-crisis Korean banks (6.1%).

In particular, the capital adequacy ratio—one of the mostly frequently used indicators—is not necessarily an effective indicator of bank soundness even if adequate accounting, reporting, and legal frameworks are adopted. This is particularly so when the stock market for bank capital is small and the ownership is highly concentrated (Rojas-Suarez, 2001). Changes in the market value of bank capital can provide information to regulators with respect to the quality of reported capital, if bank equity markets are liquid and deeply developed. Also, when wealth is highly concentrated and only a limited number of investors become bank shareholders, it is not clear whether these shareholders' wealth is at risk when they supply equity capital to banks. This is because these shareholders can finance their stakes with loans from related parties, such as nonfinancial firms that are not regulated. In such a case, the concentration of wealth encourages shareholders to supply banks with low-quality capital. In addition, the underpricing of government-sponsored deposit insurance reduces the usefulness of markets in pricing equity. This is because the government becomes a de-facto contributor of capital to problematic banks, thereby increasing their risk-taking behavior.¹⁵

Moreover, an accurate estimate of equity is difficult to achieve when markets for subordinated debt are illiquid and deep.¹⁶ The soundness of the banking system can be evaluated based on the price of subordinated debt or other bank debenture if markets are liquid so that the slightest hint of deterioration in the capacity to service debt can be reflected in their prices. Even though the secondary markets are liquid, those prices do not only reflect the banks' default risk, but also prevailing rates for debt with similar maturity and the timings of potential cash flows to bond investors (e.g., call options and frequency of coupon payments). Furthermore, the prices of bonds are affected by liquidity and changes in premium (Hancock and Kwast, 2001). In these situations, it is difficult for the bank regulator to determine whether shareholders' wealth is really at risk when they supply equity capital to a bank. Provided that such situations are present in developing countries, it is likely that the quality of bank capital is low, severely underpricing the

¹⁵ Therefore, some argue that the true value of a bank's equity should be assessed by subtracting an estimate of the capitalized value of any government guarantees from the market value of equity.

¹⁶ Subordinated debt holders may have incentives to monitor banks and pull out their funds by refusing rollover if they believe that the bank is taking on too much risk.

public safety net and creating incentives for banks to increase risk taking (Rojas-Suarez and Wiesbrod, 1996b).

If capital requirements had been effective, they would have constrained the expansion of risky assets. The fact that a rapid growth of real value of bank equity (over 10%) took place prior to the crisis suggests that capital requirements were ineffective (Rojas-Suarez, 2001). This is contrasted sharply with industrial countries, where growth rates of capital in real terms have remained less than 10%. Some may argue that the high growth rates of real capital in emerging market economies can be explained by the view that bank capital in these countries started with a very low base compared with industrial countries. This view suggests a stock adjustment problem rather than the low quality of the market for bank stock. However, in small industrialized countries, such as Norway and Sweden, the rate of growth of real equity became negative at the beginning of their banking crisis. Thus, the high growth of bank stock is likely to reflect the low quality of the market for bank stock.

Consequently, it may be desirable to use more market-based indicators along with the traditional indicators such capital adequacy ratios, liquidity ratios, and the ratio of operating costs to assets.¹⁷ The market-based indicators include interest rate spreads of banks, deposit rates, inter-bank rates, and rate of growth of loans. Low interest rate spreads and high deposit rates indicate the weakening performance of banks, since poorly-managed banks attempt to increase their market share by rapidly expanding their loan portfolio through loans to risky borrowers and to gain funding by raising deposit rates. Since these banks do not increase lending rates because they know that this could cause their risky borrowers to default, their spreads decline.

In general, market-based indicators perform better than traditional indicators in developing countries. For example, Rojas-Suarez (2001) has reported that the deposit rate for crisis Thai banks (8.95%) was higher than those of non-crisis Thai banks (7.6%) during 1995-1997. Similarly, the deposit rate for crisis Korean banks (8.1%) was higher than non-crisis banks (6.3%). In addition, the bank spread was lower for crisis banks than non-crisis banks in both countries. Although the rate of growth of loans did not show differences between crisis banks and non-crisis banks in the two countries, other two market-based indicators appear to predict banking problems and thus constitute good leading indicators.

¹⁷ These traditional indicators are effective if they are based on good accounting principles, which may not necessary be practiced in Asian developing countries. Other traditional indicators include net profits to income ratio, non-performing loan ratios, and earnings ratio.

Moreover, the selection of appropriate indicators in the context of emerging market economies can be undertaken by stress tests, which are useful when historical experience has been limited by successful government efforts to fix asset prices through setting exchange rates or raising interest rates (Frankel, 1998).¹⁸ The tests can be used to support alternate projections of cash flows, so bank managements can take various contingencies into account for purposes of capital planning.

2. Securities Regulation

In the case of bond finance, standing in sharp contrast to bank loans, the ultimate creditors are public investors. These investors make own investment decisions and thus have to bear the risks of the decisions. Since investors are numerous, diversified, dispersed and directly take investment risks, information about issuing firms needs to be standardized and transferable so that the characteristics and performance of firms can be easily grasped in terms of coupon rates, risk premiums, length of maturity, etc. The availability of standardized information to public investors constitutes a crucial element for mitigating the problems arising from asymmetric information between issuing firms and public investors and hence for promoting the development of corporate bond markets. Therefore, securities regulation should focus on how to ensure the confidence of public investors.

Securities laws exist to ensure the confidence of public investors in the presence of asymmetry of information. Unlike tangible products, securities are not inherently valuable. Their worth comes only from the claims they entitle public investors to make upon the assets and earnings of the issuers, or the voting power that accompanies such claims. The decision of issuers requires reliable information about their financial condition, payment histories, products and markets, management, and competitive and regulatory climate. With these data, investors can attempt to make a reasonable estimate of the present value of the bundle of rights that ownership confers.

¹⁸ Stress testing is used to identify and measure exposure to market risk in those economic environments that can be characterized as unlikely, but plausible. It provides actionable information on exposures that may be reduced through a tactical use of hedging transactions that do not alter the basic normal market risk-return profile of the business. Such stress testing is meant to complement the internal models approach to meeting market risk capital requirements. The Value-at-Risk (VAR) model is meant to provide a statistical measure of the loss of a portfolio in normal periods, which will not be exceeded with a probability of p% given the portfolio remains constant throughout the holding period. Since VAR model does not provide the dimension of heavy losses, stress testing is used to estimate potential extreme losses (Schachter, 1998).

Like the banking system, capital markets are also affected by agency problems, namely delegation problems between shareholders or bond holders (principal) and the company's managers (agents). These problems of information asymmetry can be solved partly by incentives that tend to correct inadequate behavior in the use of information. A management compensation scheme, for example, can reflect or take into account certain variables such as annual financial performance, performance over a period of years, or domestic or international market share. Since Yoshitomi and Shirai (2001) have already extensively discussed instruments used for the securities regulation, the measures or issues not discussed in that paper are listed below:

Capital Requirements

For investment firms, the case for official regulation is much less clear than for banks and thus, the traditional approach has been to focus primarily on the risk to investors. Investment firms experience rapid asset turnovers as a result of their market making, underwriting and trading activities. Thus, securities firms are evaluated on a liquidation basis and their accounting is marked-to-market, while banks are evaluated as going concerns and their account is often based on original cost. While banks rely largely on potentially volatile unsecured short-term deposits for their non-capital funding, securities firms have a much higher proportion of secured financing. Thus, an investment firm in short of capital can be expected to shrink its balance sheet immediately by selling marketable assets, and in the extreme may be required to close down its business completely through contraction. Furthermore, it may be said that ultimately closure is a legitimate objective for a securities regulator faced with a troubled investment firm (Dale, 1996).

Furthermore, as long as an investment firm is required to segregate investors' cash and securities in special accounts, clients' assets are protected from the claims of general creditors in the event of the firm's insolvency. Once this requirement is implemented, it is difficult to see why additional protective measures are required in the form of capital adequacy requirements (Dale, 1996).

The second rationale for regulating investment banks is the need to reassure counterparties, including banks and other creditors, who might otherwise be reluctant to deal with such firms. One may say that settlement procedures are important in securities markets, and thus, regulations are necessary to protect their security. Nevertheless, the delivery-versus-payment approach is able to reduce counterparty risk. Furthermore, investment firms are generally well placed because their assets are largely liquid compared with banks. And since most of financing by

investment banks is secured, secured financing does not give rise to full counterparty risk exposure. For these reasons, the second rationale does not provide a strong case for official regulation (Dale, 1996). If investment firms find it important to reassure counterparties about their financial strength, they can find ways, through means such as utilizing self-regulation. For example, the member firms were implementing self-regulation at the New York Stock Exchange—well before SEC was established in 1934. Also, credit rating agencies may fulfill a self-regulatory function.

The third argument is that the default of unregulated investment firms could cause systemic problems and the default could involve social costs equivalent to the collapse of a bank, thus deserving careful scrutiny. Generally, assets of investment firms consist largely of marketable securities and therefore, there are little differences between the value of these assets on a going concern basis and in liquidation, in marked contrast to the value of banking assets. This suggests that troubled investment firms can wind down their business in an orderly manner, meeting their obligations through prompt asset disposals at close to book value. Investment firms are generally less vulnerable than banks because much of their funding is secured and cannot be immediately withdrawn as can bank deposits. Thus, investment firms are much less vulnerable to contagious liquidity and solvency crises than are banks. This suggests that the third rationale cannot provide a strong case. Thus, the case for regulation on banks is stronger than that on investment firms.

Reflecting these differences, the purpose of capital requirements, for example, is different between banks and investment firms, while the two are subject to different regulatory techniques. The emphasis for banks is placed on maintaining solvency, whereas that for investment firms is placed on maintaining liquidity or liquid capital. For banks, capital is expected to be permanent by nature in order to support the institution as a going concern, whereas for securities firms it may be temporary, reflecting the latter's ability to scale down their activities as well as its fluctuating need for capital resources (Dale, 1996).

For these reasons, capital requirements imposed on investment firms can be much lower than banks and may be used for ensuring liquidity. Securities and derivatives activities are subject to volatile market risk, and are marked to market daily. The resultant highly volatile profit-and-loss performance makes it necessary for the parties involved to maintain reserves. Furthermore, investment firms are subject to large fluctuations in their balance sheets and funding needs. Thus, permanent capital in the form of equity may be especially costly because it lacks the elasticity of short-term debt finance. For this reason, investment firms are generally concerned with ensuring that the capital requirements to which they are subject are no more restrictive than those applied to

bank competitors. Both banks and investment firms have special reason to be concerned about capital structures and regulatory limits on leverage.

Disclosure Requirements

Disclosure requirements imposed by the securities laws require issuers to reveal information about all significant aspects of their businesses, property and management. In the process of the public offerings of securities, issuers need to register such offerings with the Securities Exchange Commission (SEC). In the preparation of a registration statement, securities laws seek to assure full and fair disclosure in connection with the public distribution of securities. The information includes certified financial statements for the current and several previous years; revenues and earnings for each significant product line; analysis and review by management of the issuers' capital needs, solvency, and financial performance; and analysis of any variances in revenues or profits from the preceding year.

The main objective of the registration process is to produce a prospectus that includes most of the information disclosed in the registration statement. The prospectus is designed to provide all material information necessary for investors to fully assess the merits of their purchase of the security. The prospectus is the vehicle for ensuring that investors are on as nearly an equal footing with the issuers and their underwriters as possible, with the hope that their purchase is neither worthless nor overpriced (Hillman and Voort, 1997). Underwriters' selling efforts cannot commence until the registration statement has been filed with the SEC, and no sales or deliveries of securities may occur until the registration statement is effective. Extensive selling efforts commence once the registration statement is filed, at which time investor interest is orally solicited. Written offers during this period can be made through a preliminary prospectus that embodies all the substantive information contained in the statement

Once the registration statement becomes effective, written offers must be accompanied or preceded by a final prospectus that embodies the information current as of the date the registration became effective. Then, actual sales can be made and the purchased securities can be delivered. In this way, securities laws' objective of full disclosure for public offerings of securities occurs through the registration process and the compulsion of a prospectus.

Supervision and Safety Nets

Securities regulators, compared with bank regulators, do not necessarily regard consolidated

supervision as indispensable, partly because investment firms are considered to be less vulnerable than banks to cross-infection from a troubled parent or affiliate. Furthermore, unlike banks, which are inherently illiquid and thus usually need to have access to a lender of last resort, investment firms do not need a lender of last resort because they can generally contract their way out of funding troubles.

Finance theory suggests that a firm's financing is a matter of indifference under conditions of perfectly competitive capital markets, no asymmetries of information between different agents and no variations in the tax treatment of different forms of finance. Thus, a firm's weighted average cost of capital should be independent of its capital structure or leverage. In practice, however, differential tax treatment of interest and dividends as well as agency costs may mean that firms have a preferred level of gearing. In this context, banks are special because their deposits are protected and deposit interest rates do not therefore reflect the risk characteristics of the deposit-taking bank. Thus, banks have a natural bias in favor of low-priced deposit funding, the cost of which is largely independent of the degree of leverage.

By contrast, investment firms do not enjoy the preferential credit status accorded to banks and are therefore subject to normal market constraints on leverage. The most important source of borrowed funds for investment firms is the sale and forward purchase of securities. The secured nature of this kind of financing technique may lessen credit demands for substantial differences in interest rates based on the creditworthiness of the borrowers (Dale, 1996).

Ensuring Liquid Stock Markets

In a stock market based economy, corporate governance can occur via assembling blocks which take over or influence managers when this intervention is valuable. Jensen (1986, 1989) has pointed out that capital markets may improve the incentives of managers of listed companies given the possibility of their company, if its performance is poor, being bought by other investors who will then change its management team, or leveraged buyouts (LBOs).

In such a situation, the link between control rights and cash flow rights is more direct and thus, it can be the basis for takeovers as the ultimate form of governance. Poorly run firms can be taken over by a raider who buys shares in the stock market. Since a share purchase is the purchase of a bundle of cash-flow rights and control rights, the raider will have an incentive and the power to improve the value of the firm

On the other hand, LBOs generate uncertainty, not only for managers but also for the company's workers, customers, and suppliers, and thus it is not clear whether they considerably improve the company's profitability subsequently, and consequently their effectiveness is not universally proven (Canal, 1997).

When there are no controlling shareholders in companies, furthermore, there are no counterweights to the power of the company's management. In this circumstance, shareholders' social responsibility is much more diluted so that there is no guarantee that capital markets will properly evaluate managers' decisions. This situation may take place when a company which used to be owned by family has recently been admitted to the stock exchange.

Demutualization, Mergers, and Alliances of Stock Exchanges:

Demutualization, mergers, and alliances of exchanges have been taking place in many countries in recent years. Stock exchanges in Australia, Amsterdam, Frankfurt, Stockholm, Singapore, and Toronto have already demutualized. Of which, those in Australia, Amsterdam, and Stockholm have also become listed companies themselves. The derivative exchanges in Germany and Switzerland have merged to become Eurex in 1997, taking over London's derivative market in size and Chicago Board of Trades.

Recent technological innovation has improved efficiency in trading and electronic communications networks. This innovation has reduced transaction costs of trading and thus has enabled investors to directly trade securities from their personal computers. This has facilitated the disintermediation process and thus has lowered relative comparative advantages of exchanges. This have left exchanges no choice but to consolidate.

Under the mutually owned exchanges, owners, decision makers, and direct users of trading services are the same entities, namely member firms. Decisions are usually made on a one-member, one-vote basis. Ownership rights and trading rights are the same and are not easily transferable. The value of membership is enhanced by limiting its supply. In addition, members are unlikely to vote for any changes that would require them to put in additional capital, or threaten their customary way of doing business, or decrease the potential value of their membership. Thus, members' interest could be placed a priority over the interest of market and investors. Moreover, it is unlikely that members respond quickly to changes brought by new technologies.

Demutualization, therefore, segregates current members' ownership rights from their trading rights and thus helps create value in both of these rights. Members' ownership rights are transformed into shares, whereas their trading rights can be maintained. Once the demutualized exchange becomes a listed company, its shares can be freely tradable. Thus, demutualization aligns owner interests with exchange objectives, ending member trading privileges and opening access to all financial institutions that meet the exchange's trading criteria. This change in the structure may promote exchanges to become more customer-oriented and profit-driven. It offers clear incentives to create a high-performance culture. Also, demutualization would allow exchanges to raise capital from the public and thus could invest in new technology and systems, enabling them to compete with electronic communication networks.

3. New Aspects for Consideration

This subsection examines mainly nine factors that regulators should take into account in the intermediate financial structure. Furthermore, it argues the rationale for designing the new regulatory framework.

The Higher Default Ratios of Bank Loans

First, commercial banks are likely to continue to provide loans to firms that are not able to raise funds directly from markets. Since the average credit quality of these firms tends to be lower than those under a bank-based economy, banks need to improve their internal risk management skills even more intensively when coexisting with a corporate bond market—in order to contain credit risks that rise with the increased share of small firms as borrowers. Furthermore, intensified competition and a growing tendency toward the removal of government guarantees and excessive protections for commercial banks as the economy moves toward being more market-based are likely to contribute to a further rise in the credit risk borne by commercial banks unless their internal risk management system is drastically improved.

Conflicts of Interest between Bank Underwriters and Public Investors¹⁹

¹⁹ In Japan, banks played a role as lead underwriters until 1948, whereas securities firms served as subordinate underwriters, reflecting the differences in capital, credit, and expertise. Banks conducted (1) consulting and agencies services at the time of issue, (2) underwriting, and (3) bondholder protection. When the Securities and Exchange Law took effect in 1948, the Japanese government adopted disclosure requirements as investor protection measures. At the same time, it separated the roles and services of banks and securities companies according to the US Glass-Steagall Act with banks taking the first and third roles and securities firms taking the

Second, an increasing focus should be given to how to protect investors as concerns on potential conflicts of interest become severe. Competitive market forces and the removal of firewalls can address potential conflicts of interest and stability and the soundness of the financial system if the institutions are sufficiently capitalized and have built up reputations. A conflict of interest can lead to mismanagement and unacceptable risk-taking in business areas in which a given financial institution has little experience and for which it is not fit and proper. In order to protect the general public against undesirable failures and losses, appropriate precautionary measures in the form of an institutional and regulatory separation of functions need to be taken. This was the rationale behind the Glass-Steagall Act of 1933.

The financial conglomeration of the banking system may lead to various conflicts of interest between banks and investors when banks underwrite securities. Banks may decide to underwrite securities for their troubled borrowers so that the proceeds of the issue of securities can be used to pay off the banks' own loans to the companies. Banks undertaking proprietary trading may not attempt to obtain the best execution for their clients at their advantage. They may dump into the trust accounts they manage the unsold part of the securities they underwrite. The division of banks responsible primarily for dealing with IPOs, seasoned equity offerings, and mergers for new and current clients may face conflicts with the divisions that conduct brokerage operations, since the latter are motivated to maximize commissions and spreads by providing timely, high-quality information for their clients.

When banks conduct securities analysis and their research analysts' compensations are determined by the analysts' helpfulness to the corporate finance professionals, the opinions of these analysts may be positively biased. This is true especially when analysts issue opinions and recommendations about firms that have business dealings with their corporate finance divisions. Also, this kind of conflicts is likely to become large during an IPO process. This is partly because underwriter analysts may issue recommendations that are overly optimistic compared to those of their own non-underwriter competitors, and partly because these analysts may be compelled to issue more positive recommendations on firms that have traded poorly in the IPO after-market.

second role. These so-called "commissioned banks" together with underwriting securities firms served as mediators for bond by balancing the interests of issuers and investors and managing the market so as to coordinate with the overall financial system and thereby protect bondholders (Koyanagi, 2001). Specifically, the disclosure requirements and the mediation roles played by banks together with securities firms contributed to developing sound bond markets. This is contrasted with the case of the United States, where repeated litigation is used as the preferred means to resolve disputes.

Furthermore, banks may impose tie-in deals on customers by using their lending relationships with firms to pressure them to buy their underwriting services, using the threat of increased credit costs or nonrenewal of credit lines. Banks may use the confidential inside information that they possess when they underwrite firms' securities in a way that the firms do not contemplate, such as disclosing the information directly or indirectly to the firms' competitors.

These conflicts of interest are likely to lower the quality of services offered by banks, and thus investors need special protection against such bad services and malpractices. Conflicts of interest can be exploited when there is some monopoly power (as with tie-in deals) or an asymmetry of information between the contracting parties (as in the conflict between the bank's promotional and advisory roles) or when one of the parties is naïve (as when securities are issued to transfer bankruptcy risks to outside investors) (Santos, 1998).

One way to deal with this problem is to rely on market discipline and codes of conduct, which are rules of practice or conditions for doing business. Also, disclosure requirement is necessary so that clients of financial institutions can be fully informed about all aspects of businesses they are doing with financial institutions, and such information should be readily available in an understandable form. Furthermore, competition gives customers choices of various financial institutions, minimizing conflicts of interest. Santos (1998) has stated that it is not clear whether the banks have a strong enough incentive to exploit the conflicts of interest because a bad reputation would damage their certification role. Furthermore, monitoring by bond rating agencies and supervision exercised by regulatory authorities can help mitigate conflicts of interest. Moreover, it is not clear whether banks have opportunities to turn these conflicts to their own advantage. Also, if firms perceive that they may be forced into future tie-in deals, they can protect themselves in advance by maintaining relationships with more than one bank and applying a lemon's discount to the bank's products affected by such conflicts.

Puri (1996b) has stressed that the negative impacts caused by commercial bank underwriters may be offset by efficiency gains when such banks obtain more accurate information than independent investment banks. When the benefits of having better information outweigh the potential conflicts of interest, commercial bank underwriters can be viewed as providing a net certification effect to investors. For example, firms issuing junior and more information-sensitive securities may receive higher prices when banks underwrite them than when independent investment banks do so, because of perceived monitoring advantages of the banks that are a

by-product of their lending activities.²⁰

Concentration of Power

Third, more attention has to be given on how to limit the concentration of power in banks that undertake various financial services in addition to traditional banking services. In the case where banks hold equity in borrowers and where the interests of bank equity holders and other shareholders are in opposition to each other, banks may act in their own private interests to the detriment of other shareholders.

Banks generally prefer equity claims when (1) the return to misallocating funds is relatively high and hence moral hazard is severe, (2) the probability of failure as a commercial bank is relatively high, and (3) ex-post state verification costs are relatively low. When banks are allowed to take equity positions and assume some control rights, their incentives to control moral hazard problems could be substantially attenuated (Boyd, Chang, and Smith, 1998). This is because banks can share more easily in the benefits of misallocating funds and they can more easily pass losses onto the deposit insurance system if it exists. Furthermore, by exercising their control rights, banks can force firms to misallocate funds to projects that are not beneficial to the firm, affecting the performance of the firm and increasing the burden on the deposit insurance system. When stock prices are volatile, moreover, the risk of returns on common stock may exceed that of debt.

²⁰ There are two types of empirical studies for the period prior to the Glass-Steagall Act. The first examines the long-run performance of bank underwritten issues compared to investment firm underwritten issues (Ang and Richardson [1994], Kroszner and Rajan [1994], and Puri [1994]). Kroszner and Rajan (1994) have compared the ex-post default performance of ex-ante similar securities underwritten by commercial banks with those by investment banks in the period prior to the Glass-Steagall Act. They have found no evidence supporting the presence of conflicts of interest. Instead, commercial banks were found to have underwritten higher-quality securities, which performed better than comparable securities. These observations indicate that some conflicts of interest may develop, but that incentives are constrained and opportunities are limited. Other studies have also found that commercial bank underwritten securities had a better default record in the long term than investment firm underwritten securities despite the potential conflicts of interest that were present.

The second type is to examine ex-ante pricing of corporate debt in the immediate pre-Glass-Steagall period. These studies have found that issuers of commercial bank underwritten securities obtained higher prices ex-ante than those obtained by similar investment house underwritten securities (Puri, 1996a). The results of these studies support the view that banks having a net certification effect that dominated any conflicts of interest effect, and investors anticipated correctly the higher quality of bank underwritten issues. Thus, existing empirical research on the conflicts of interest does not indicate strong evidence supporting the claim that banks exploit these conflicts.

When banks have private benefits at stake, when their block increases, they may use additional control rights to extract more private benefits. For example, by virtue of their dual role as lenders and equity holders and to the extent that capital markets are not a very competitive financing option, banks can behave as monopolists, using their power to extract profits from the firm at the expense of the firm's performance. Furthermore, monopoly profits can be extracted by forcing increased borrowing from the bank at monopoly interest rates.

Since banks are protected under the deposit insurance system and as lenders of last resort, they may enjoy advantages that without legal constraints might be shared with their affiliates or otherwise favored borrowers. The concern over anti-competitive practices of this sort partially explain why they are often prohibited from making direct investments in other business enterprises and are strictly regulated in providing credit to or engaging in other transactions with affiliated entities.

The Crowding Out of Small Banks

Fourth, care should be given to stand-alone or small banks so that they are not competitively disadvantaged, and that credit availability to SMEs does not diminish. There has been a concern that small businesses have fallen victim to the increasing size and complexity of banking organizations. The proliferation of new bank product lines has forced an internal competition for scarce capital and managerial attention in which the small business component of banking has been losing ground. A recent wave of bank acquisitions and rationalization, as evidenced in the United States, may be enhancing this tendency. This is because acquiring banks have often imposed their own idiosyncratic policies and procedures, stripping the acquired banks of their autonomy in management. This process may be robbing acquired banks of their community identity and their appetite for providing loans to small local businesses (Berger and Udell, 1995b).

These forces may have little downside costs for consumers who demand relatively generic financial services and who increasingly buy these services in national markets with substantial nonbank competition. Equally, there is little downside cost for large- and middle-size firms who demand the breadth of service that the more universal-like money that center banks and the superregional banks offer and who benefit from access to alternative sources of funding, such as the public securities market and the private placement market. Bank loans to large firms tend to be generic in nature, transaction-driven, and provided by multiple banks in syndicated loans or credit facilities.

However, SMEs usually find it necessary to have a relationship with an individual bank that has an understanding of the local business market and is staffed by personnel with local roots. Trust is a necessary condition for the establishment and the continuation of a banking relationship and the tailoring of services to meet the idiosyncratic needs of SMEs. Ang (1992) has emphasized that small business lending tends to be very idiosyncratic in nature. Petersen and Rajan (1993, 1994) and Berger and Udell (1995a) have found evidence that at least some types of lending to small businesses tend to be relationship-driven. These loans depend on private information gathered through contact between the bank and the borrower over time and the information gathered is used to refine the terms of the lending contract. Small business borrowers with longer banking relationships tend to pay lower interest rates, have fewer collateral requirements and become less dependent on trade credit.

Diamond (1984, 1991), Ramakrishnan and Thakor (1984), Boyd and Prescott (1986), Boot and Thakor (1994b) have shown that banks are specialists in the production of information about borrowers and in the design of contracts which address issues related to the sparseness of information about borrower quality and behavior. Since the severity of these information problems tends to be greater for SMEs, the nature of the debt contract tends to vary with the size of the firm (Carey *et al.*, 1993).

As banks become larger and more complex, they reduce their supply of loans to SMEs. This tendency reflects the fact that the delivery of banking services to SMEs is a fundamentally different activity from that to large firms. Lending to SMEs tends to be more information-intensive and relationship-driven, whereas lending to large firms tends to be more transaction-driven and also often involves the joint provision of more nontraditional banking products, such as derivative contracts and underwriting services (Berger and Udell, 1995b). Berger and Udell (1995a) have found that small businesses tend to consolidate their working capital financing with a single bank. The problem of reduced banks loans to SMEs may be exacerbated by the fact that the pool of independent community banks which could absorb this contraction in supply has been reduced by the acquisition of small banks by large banking organizations (Berger and Udell, 1995b).

As an alternative explanation, Williamson (1967) has emphasized managerial diseconomies associated with the provision of multiple activities in large, complex organizations, which can be used to explain why the trend toward large, complex banking organizations has reduced the supply of credit to SMEs. As banks become larger and more complex, an effective diseconomy of

scale or of complexity sets in as more dimensions of managerial oversight become necessary. For example, the joint provision of banking services to SMEs with the capital markets services typically demanded by large corporations may complicate the management of the banks (Berger and Udell, 1995). The trend toward larger banking organizations with expanded product lines and increased geographic dispersion has significantly complicated the managerial structure of the banks and resulted in increased layers of management (vertical complexity) and an increased number of parallel functions (horizontal complexity). Such organizational diseconomies provide an incentive for larger, more complex banks to abandon their small business clientele in order to focus their efforts more narrowly and avoid these diseconomies.²¹

These findings suggest that an important role may remain for community-based small banks, since they have an advantage over large banks in extending loans to small businesses due to their local roots and knowledge of the local community. Thus, regulations should be careful to avoid banks becoming too big and eliminating smaller banks.

The Emergence of New Risks

Fifth, the activities performed by investment firms are divided into (a) agency-type activities and (b) principal-type activities (Santos, 1998). In the first type of activities, investment firms act as agents and conduct two-way transactions on behalf of customers. They also act as a securities broker, as a placement agent in private underwritings and on a best-efforts basis in public underwritings. These activities are perceived to be less risky than the second type of activities, because they are mainly free-based.

In the second type of activities, investment firms conduct transactions for their own account. They attempt to profit by acquiring securities in the expectation of reselling them at a higher price. This makes the profitability of the principal-type activities very dependent on the bank's

²¹ Based on data covering 900,000 domestic commercial loans issued quarterly by a sample of US banks during 1986-1994 and 340 banks, Berger and Udell (1995b) have found that larger banks tend to charge lower loan rates to and less often require collateral for small business borrowers. Large banks are predicted to charge about 100 basis points less on loans issued to small business and require collateral about 25 percent less of the time than small banks. Furthermore, large banks were found to tend to issue fewer loans to these borrowers. These results support the view that a reduction in lending to relationship borrowers lowers the average interest rate and collateral requirements offered to those remaining in the small borrower pool (since the pool consists of a higher proportion of ratio borrowers who tend to pay a lower price for credit). Moreover, Berger and Udell have found that banks that are more organizationally complex overall generally provide less credit to small borrowers.

assessment of the value of the securities and on that of the market. Risk occurs mainly in the case where firms make commitments to underwriting public issues and these securities firms cannot resell the securities they underwrote at a price high enough to cover the costs of the operation and the price guaranteed to the issuers. Underwriting requires that commercial banks bid as primary dealers in bonds, hold unsold bonds and support prices after initial distribution. Commercial banks may allocate unused funds to pay for the costs of providing these services. However, this means that they are now entering a new economic environment and thus face new types of risks. Regulators need to ensure that commercial banks do not overoptimistically analyze the performance of firms with whom they have long-term relationships when they underwrite bonds.

Furthermore, the presence of this gives incentives to these investments firms to underprice the securities they underwrite. Various research studies have found that IPOs of common stock are usually underpriced. Smith (1986) has reviewed that existing literature and concluded that on average underpricing exceeds 15%. Meanwhile, Loderer, Sheehan, and Kadlec (1991) have found little evidence that underwriters systematically set offer prices below the market price on the major exchanges, but found evidence of underpricing for NASDAQ issues.

Moreover, commercial banks can be allowed to conduct market making and proprietary trading where they take positions on their own behalf. This may give rise to the transformation risk that commercial banks bear and thus potentially have an adverse impact on their balance sheets. This may lead to an increase in commercial banks' costs of raising funds and thus a resultant rise in their lending costs, which may reduce the volume of credit extended to small, unknown firms. Also, banks may enter into brokerage services and conduct merger advisory services.

In addition, banks may face more frequent market risks as they increase the share of securities holdings and lower the share of illiquid bank loans. However, it is increasingly understood that the risk arising from holdings of stocks can be reduced by diversifying the holding. Equity and other types of assets might be relatively risky themselves, but diversification can reduce risk by smoothing revenue streams over time (Shull, 1997). Krozner (1999) has pointed out that there is historical evidence that permitting banks to expand their portfolios to include equity reduces stability.

Amplified Risk with Derivatives Activities

Sixth, while they still have not become serious concerns for many Asian banks because the

markets are underdeveloped so far, problems associated with derivative business should be considered. The risks of derivative transactions includes market risk, credit risk, operations risk, and legal risks, all of which are the same type of risk banks and securities firms face in their traditional business operations. Nevertheless, derivatives activities are different from other securities businesses owing to the special attributes of derivatives: complexity and rapid risk transformation. As a result, such activities may reduce the transparency of financial markets because of the rapidly changing and complex risk adjustments of major financial institutions, and at the same time increase the volatility of financial asset prices. They also increase the potential for cross-border and cross-market contagion, while end users do not understand how these instruments work.²²

Derivatives can benefit from self-regulatory safeguards maintained by exchange, such as multilateral netting associated with central clearing and initial and variation margin requirements imposed on clearing members. The margin requirements provide a buffer against default. Also, exchange utilizes a reserve fund that the clearing house can draw on if a need arises and at the same time, adopts prudential rules (minimum capital requirements) applied to member firms. By contrast, OTC markets are self-regulated in a looser sense, relying on bilateral netting and/or collateral arrangements to reduce counterparty risk.

End users may be banks, securities firms, insurance firms, governments, investment funds or commercial firms. Dealers quote prices for buying derivatives from and selling derivatives to end-users. Dealers develop customised derivative products for their customers, often using exchange-trade derivatives to hedge the risks on their OTC portfolios. Bank dealers are generally concentrated.²³ This concentration can be attributed in part to (a) the complex information and risk management systems needed to conduct derivatives activity and (b) the high credit standing demanded of counterparties in OTC derivatives dealing where credit risk is a paramount concern.

²² Derivatives can be transacted at either stock exchange or OTC markets. The stock exchange deals with standardized contracts, sets margin requirements, and acts as a clearing house—thereby eliminating bilateral counterparty risk. In general, exchange-traded derivatives are characterized by a high degree of liquidity and low transaction costs, reflecting the standardized contract terms, low credit risk and broad interest in the underlying assets. OTC markets deal with tailor-made contracts to meet the specific needs of counterparties (e.g., swaps). In this market, traders and investors are exposed to the counterparty risk. The absence of a clearing house and customized contract terms makes OTC derivatives relatively illiquid, and for this reason, OTC derivatives are usually less liquid than the underlying cash markets. OTC markets are designed primarily to reconfigure market risk rather than to provide liquidity.

²³ In the United States, for example, the seven top domestic bank derivatives dealers accounted for more than 90% of all US bank derivatives activity, while the top five securities derivatives dealers accounted for 82% of all US securities firms' derivative activities.

The concentration of large-scale derivatives trading in a few major financial institutions may undermine financial stability. Lack of transparency associated with derivatives activity vis-à-vis management, regulators, and financial markets weakens market discipline and regulatory oversight.²⁴

There are reports in some Latin American countries that financial institutions use the derivatives markets, especially the large Brady Bond market, to assume large speculative positions. Since commercial banks are protected under the deposit insurance system, the large speculative positions assumed by banks implies imprudent behavior, exposing banks to moral hazard risk. This problem is aggravated further since banks or firms do not have adequate risk management systems to measure, monitor, and report derivatives risk on a real time basis to top management and shareholders. Moreover, regulatory authorities in these countries have not kept up with recent financial developments and thus may not be aware of the extent of risks the banking system is running (Write *et al.*, 1995).

Furthermore, OTC derivatives activities can exacerbate disturbances in underlying assets. For example, the sharp appreciation of the yen vis-à-vis the US dollar from \$1=Y101 in January 1995 to Y80 in April has been widely recognized as having been reinforced by the cancellation of knockout options and the unwinding of yen-carry trades. Knockout options are cancelled if the exchange rate reaches certain knockout levels and thus leave investors unhedged against

²⁴ For example, in September 1994, Gibson Greetings, a Cincinnati-based company, filed a suit alleging that Bankers Trust had misled it about the risks of interest rate swaps that it had bought from 1992 onwards, leading to losses of \$20 million. The dispute was settled out of court on the following terms: Bankers Trust released Gibson Greetings from \$14 million it owed under two swap arrangements. This episode indicates how reputational damage can be inflicted on institutions that sell complex derivative products to end users who may or may not be fully informed about the risks involved. Furthermore, in October 1994, Proctor and Gamble, the US consumer products giant, filed a \$130 million plus lawsuit against Bankers Trust alleging that the bank had not accurately and fully disclosed information about a single interest rate swap that it was encouraged to enter into and which resulted in heavy losses.

Following the two legal cases, the Federal Reserve Bank of New York announced in December 1994 that Bankers Trust had entered into an accord with the bank regulator. This accord reflected the regulator's view that all banks engaged in derivatives business should maintain effective policies and procedures relating to client selection, marketing and sales practices, and pricing and valuation. Nevertheless, these obligations fall short of imposing on banks a fiduciary duty to determine whether a transaction is suitable for its counterparty (Dale, 1996). If courts were to set aside such contracts, derivatives dealers would be exposed to losses arising from non-enforceability—similar to the case of 1980s in the United Kingdom, which involved the massive losses caused by the non-enforceability of swap contracts entered into by local authorities.

exchange rate movements. In early 1995, Japanese exporters purchased knockout options to partially hedge the yen value of US dollar receivables against a moderate appreciation. When the knockout options were canceled, Japanese exporters with those options sold dollars into an already declining market to prevent further losses on their dollar receivables, thus further appreciating the yen. Also, the dynamic hedging strategies employed by sellers of knockout options required the sudden sale of US dollars after the knockout levels had been reached, thereby exacerbating a further appreciation of yen (Schinasi *et al.*, 2000).

The Slower Pace of Financial Innovation

Seventh, it gives rise to conflicts between innovative drive present in the securities market and that present in relationship banks. Innovation is fostered by enhancing competition and specialization and by the fact that advances in customer services drive profits in the securities markets. Since small innovations are applicable to widely traded market instruments, innovation can be remunerative (Steinherr, 1996). Markets provide alternatives for treasury and funding operations that can be accessed on a deal-specific basis and that take away banks' traditional business. In the securities markets, leveraged buyouts (LBOs) are important tools for exerting discipline on issuers, but constitute a direct threat to the established bank-corporation relationships. Market-based innovations in money and capital markets can be substituted for bank deposits and loans, affecting the interest rate margin of banks.

In contrast, innovation in the banking system tends to focus on cost-saving devices rather than on product innovation. From the viewpoints of banks, it is less important to offer the latest innovation. Rather, it is important to build up reputation, reliability, and a long-term commitment to customers on a sustained basis. Therefore, banks put more emphasis on quality control, reliability, and stability, all of which are required for maintaining the relationships. Furthermore, banks potentially lose money in bankruptcies from their loans extended to a firm; thus, banks have no interest in advising their customers to adopt a high risk/high return strategy. Even if banks' loan portfolios are well diversified, a mere loan loss is a negative signal for the banks. Thus, banks act as risk minimizers and transmit this bias to their customers (Steinherr, 1996). Furthermore, the banking system tends to control competition to provide implicit rents that are necessary for banks to conduct discretionary, flexible, repetitive transactions. Thus, the resultant large banks become too big to fail and implicit protection makes failure less likely. As a result, restricted competition results in less aggressive and innovative behavior, unpenalized by forced exit.

On the other hand, in the securities markets, issuing firms invest less in firm-specific capital since it is not transferable. Managers and workers are inclined to invest less in company-specific human capital formation and long-term projects when their tenure is uncertain. The possibility of takeovers may depreciate incumbent managers' investments in the company even further. In contrast, under the banking system, the protection against takeovers provided, for example, by the housebank system or main bank system, reduces this underinvestment bias.

When banks are functionally separated from investment banking, investment banks determine whether to innovate (invest in innovation) without taking into account the impact of the innovation on the loan demand faced by commercial banks. When commercial banks that also engage in securities businesses determine whether to innovate, they internalize the depressing effect that the innovation will have on the loan demand faced by commercial bank units. This result is independent of the organizational details of the banks engaging in securities businesses—whether investment banks and commercial banks are divisions or subsidiaries. This result depends only on the fact that the integrated banks maximize the sum of the expected profits of the investment banks and commercial banks. Consequently, integrated banks need higher expected profits from the innovation than do functionally separated investment banks. Since a positive profit from innovation is available only if the integrated bank in question is the only bank that innovates, the only way to increase the expected profit from innovation is to lower the probability with which each competing bank innovates in a mixed strategy Nash equilibrium.²⁵

This suggests that while large integrated banks enjoy scope economies and may deal with large, politically viable clients, stand-alone investment banks are able to compete with them. Stand-alone investment banks have an innovation-based advantage in competing with integrated banks. They can wrest some market shares away from local universal banks, particularly when it comes to large corporate borrowers seeking capital market funding.

The evolution of a financial system is likely to be path dependent. Well-developed financial systems provide stronger incentives for financial innovation and develop faster. Banks are likely

²⁵ Boot and Thakhor (1997) have shown theoretically that the equilibrium probability of innovation is lower in a financial system with universal banking than a financial system with functionally separated banking. Banks obtain inside information, which is reusable intertemporally and whose cost of acquisition becomes lower over time. Thus, customers of a commercial bank become more profitable to commercial banks over time because informational monopoly for the bank creates ex-post rents. Since financial innovation yields only a single-shot gain due to imitation by rivals, bank may not be eager to undertake innovation. This reflects banks' concerns that they can face loss in loan demand as a result of financial innovation so that they cannot recover losses generated at early stages of bank relationships.

to lose more market share over time to capital markets in financial systems with functionally separated banking than in ones with a universal banking system.

Deterioration of Efficiency

Eighth, financial conglomeration may enhance inefficiency rather than improving it. A financial institution operating in different broad areas of financial services, such as retail banking, corporate financial services and securities activities etc., cannot be expected to be equally efficient and competitive in all these services at the same time (OECD, 1989). These institutions tend to offer less-than-lowest cost and less-than-highest quality services, particularly in areas of activities that are less profitable or in which the institutions do not have enough experience and qualified staff.

It may be argued that the financial service needs of particular customer groups or of the economy can be better satisfied if more specialized institutions are responsible for offering particular types of services or particular types of customer groups. In this light, governments often impose a certain degree of specialization or take measures that are designed to improve the efficiency for less developed submarkets for financial services. They can do this by increasing the scope for competition through facilitating market access from inside or outside the country.

The Emergence of Lemon Problems

Ninth, the pre-emptive behavior that universal banks can adopt may deter other banks from competing for their client's businesses. By having better information about the borrowing firms, the banks can anticipate the firms' funding needs and so can prepare some of the necessary work in advance to gain an advantage over potential competitors. This creates a new "lemons" problem when a firm leaves a universal bank (Santos, 1998). In a specialized banking system, when a firm switches from a commercial bank to an investment firm for the purpose of issuing in the market, no special meaning is attached to this move except that the firm is interested in raising funds through a different channel. Furthermore, the investment firm knows that the bank with which this firm has relationships cannot underwrite its securities. By contrast, when a bank can underwrite securities and the firm switches to an independent investment firm, this independent investment firm may wonder why the firm's bank does not provide the underwriting service. This creates a "lemons" premium, and raises the firm's switching costs.

Rationale for the New Regulatory Framework

From the discussions on securities market regulations above, it is clear that there is a weaker case for regulating investment firms than banks because of their balance sheet structures. Furthermore, the investment industry itself has both the incentive and the capacity to impose relatively straightforward liquid capital rules that minimize the risk of default. Furthermore, the spillover effects of the failure of an investment firm are small compared with the social costs of bank failures.

The real problem here, therefore, is not the vulnerability of investment firms, but rather the vulnerability of banks within a financial market regime characterized by an increasing integration of banking and securities business. Banks may be exposed to securities market risks because they have lent to investment firms, engage in securities business on their own balance sheet or they have a securities subsidiary or affiliate.

Some argue that, the risks associated with bank lending to non-related investment firms can be dealt with through regulatory limits on large exposures. Once such limits are in place, there is no reason why the failure of an investment firm should pose a greater solvency threat to banks than would the failure of any other firm (Dale, 1996).

Furthermore, in the period prior to the Glass-Steagall Act, banks' involvement in securities activities did not increase the risk of affiliated banks. White (1986) has reported that the failure rate of national banks with securities operations was only 7.6% during 1930-1933— lower than the rate for all national banks of 26.3%. He has found that banks with securities affiliates had a lower probability of failure and there was little correlation between the earnings of banks and their securities affiliates. Calomiris (1993) attributed bank failures during the depression era to insufficient bank diversification stemming from restrictions on geographic expansion.

In the meanwhile, however, the insolvency problems of banks become important when they directly undertake securities business or belong to financial groups that include an investment firm. This is because the solvency of the bank is inextricably linked to its securities operations. The related affiliate could default, damaging the credit standing of the bank. Even though banks and securities firms are separated by firewall provisions, there are cases where those provisions are not always effective. Once investment firms are connected to banks, systemic risks associated with banks are extended to securities and derivatives markets. These problems are likely to be more pronounced in Asian developing countries, where the informational, legal, and judiciary infrastructures are inadequately implemented. New elements that should be taken into account in

the regulatory framework are discussed below.

4. Limit on Ownership of Borrowers by Banks

Banks can increase their presence on boards of directors by becoming shareholders. The full insider status might improve information flows even further. On the other hand, Holdings of stocks of non-bank firms by banks also may give rise to connected lending, especially when a clear separation between management and ownership is not established.

This is particularly so in Asian countries where family businesses are commonplace and connected to each other through complex pyramid ownership structures. Commercial banks are often owned by family businesses under the family-controlled conglomerates, as evidenced in Indonesia, the Republic of Korea, and Thailand. The ownership of East Asian firms is highly concentrated through family controls and group affiliations, generating a divergence between cash-flow rights and control rights. Even if control rights of each firm based on the share of stock holding is small, ownership based on voting rights, not cash-flow rights, can be concentrated through several mechanisms, such as multiple classes of voting rights, pyramid structures and cross holdings (Claessens, Djankov and Lang, 1999).

Exploitation is more likely when control rights are high and cash-flow rights are low because the controlling owners gain private benefits but suffer few of the consequences of the reduction in the firms' value. Claessens, Djankov and Lang (1999) have indicated that positive diversification effect of the conglomeration may be present in normal times, but it may have hidden costs arising from lower incentives for monitoring that only become apparent during economic downturns in developing countries. Furthermore, poor lending decisions and undue concentration of lending in certain sectors or projects often reflect self-lending or lending to entities associated with commercial banks' shareholders or managers. In these circumstances, it may be desirable for regulators to limit banks' holdings of equity of their clients as it may damage the benefits of other shareholders and creditors.

5. Emphasis on Internal Credit Ratings

Internal credit ratings have become increasingly important especially for large banks in the United States and other industrial countries. Their approach is similar to those of risk rating agencies in that they summarize the risk of loss due to failure by a given borrower to pay as promised. Risk ratings are the primary summary indicator of risk for banks' individual credit

exposures. However, the difference between internal risk rating systems and those of risk rating agencies is related to architecture and operating design, as well as to the uses to which ratings are put. For example, banks assign ratings on the basis of the borrowers' current condition and mostly likely outlook, while rating agencies assign grades on the basis of a downside scenario. Also, most banks consider both firm size and the book or market dollar value of a firm's equity in assigning ratings and thus, small firms with limited access to external finance and few assets are assigned relatively risky grades. This takes place even if their financial characteristics suggest a more favorable rating.

For large banks, whose commercial borrowers can be numerous, internal ratings are an essential ingredient in internal credit risk management. Any comparison of the risk posed by many borrowers is difficult owing to the need to simultaneously consider many risk factors for each of the borrowers. Thus, many large banks use ratings in one or more key areas of risk management that involve credit, such as guiding the loan origination process, portfolio monitoring and management reporting, analysis of the adequacy of loan loss reserves or capital, and so on. They usually produce ratings only for business and institutional loans and counterparties, not for consumer loans. Rated assets thus include commercial and industrial loans and other facilities, commercial lease financings, commercial real estate loans, loans to foreign commercial and sovereign entities, and loans and other facilities to financial institutions, etc. Ratings are applied generally to those types of loans for which underwriting requires large elements of subjective analysis. Ratings are typically assigned at the time of each underwriting or credit approval action.

The borrower is rated by gathering quantitative and qualitative information, comparing this information with the standards for each grade, and then weighting them in choosing a borrower grade. The bank may also look for already-rated loans with characteristics close to those of the loan being rated. While in principle the analysis of risk factors can be done by a mechanical model, in practice banks rely heavily on judgment. This reflects concerns that (1) different models would be required for each asset class and different geographic regions; and (2) data is rarely available, and thus the reliability of the model becomes apparent only over time, exposing the bank to substantial risks in the interim. Only those banks that feel confidence increase dependence on models.

Furthermore, both the Basle Committee and EU have accepted now that banks are able to use their own internal risk control models (VAR) and methods to evaluate market risk in relation to capital under restricted parameters, following the December 1996 Amendment to the Basle

Capital Accord. If sound credit risk models can be developed, they can bring forward more precise estimates of credit risk. Capital requirement is set now equal to 3 times the maximum possible loss in the portfolio position of the bank during a certain time period and with a certain statistical degree of confidence. If statistical models are used for regulatory capital purposes, however, competitive equality within the banking industry could be compromised (Swaan, 1998). Since the statistical assumptions and techniques used differ, credit risk models may not be comparable across banks. This issue is complicated further by the potential differences in required capital between banks using models and banks using the current approach. As banks begin to engage in various nonbanking activities, the regulator needs to put more emphasis on strengthening internal credit rating systems of banks.

6. Managing Derivatives Activities

Dale (1996) has pointed out that official intervention to prevent end user derivatives losses is neither necessary nor desirable, since end user losses are unlikely to pose a systemic threat and it is not good to protect buyers of derivative products from their own folly. When large-scale derivatives activities take place, however, the volatility of underlying assets may expand and transmission mechanisms of shocks become compounded across borders and across markets.

So far, net exposures of derivatives dealers are quite small in the United States for various reasons (Mishikin, 1995). First, derivatives contracts require period payments based on notional amounts but not payments of the notional amounts themselves. Thus, a party's exposure is not the notional value of the contract, but the replacement cost of the contract. This suggests that the typical derivatives transaction involves a credit exposure that is only a fraction of its notional principal, and thus gross credit exposure is much smaller. Second, bilateral contractual netting provisions allow banks to offset losses with gains from other contracts outstanding with a defaulting party and its corporate affiliates. Third, when swaps are undertaken with lower quality parties, such counterparties are usually required to post collateral on a mark-to-market basis. A GAO report has examined 14 major OTC derivatives dealers in the United States and found that their net credit exposure was only \$68 billion, or 1% of the notional value of their outstanding derivatives contracts. In fact, actual losses incurred by derivatives dealers as a result of counterparty defaults have been quite small, accounting for only 0.2% of their combined gross credit exposures in the United States.

On the other hand, it should be recognized that large-scale derivatives activities, whether undertaken by banks or securities firms, have added a new dimension to the transparency problem

in financial markets. Furthermore, financial institutions may face greater funding instability as a result of a lack of transparency. Moreover, a 1994 GAP report has stressed that a default by a major OTC derivatives dealer (particularly a major bank) could spillover and close down OTC markets. The growing size of banks' OTC derivatives activities suggests that they may be exposed to market and credit risks to a significant degree in the future, because of their derivatives positions, such as counterparty credit risk. This problem is exacerbated by the slow pace of developing and modifying regulations (Mishikin, 1995). This partly reflects the fact that derivatives instruments are becoming too sophisticated for financial managers and regulators.

It should be stressed that the nature of derivatives transactions generally contributes to magnifying familiar risks, such as counterparty risk, credit risk and market risk (e.g., changes in interest rates or exchange rates)—rather than creating new risks. Banks have always been exposed to these risks because of their holdings of fixed-rate, long-term loans and securities and foreign currency positions. Furthermore, derivatives can be used to increase or decrease these risks. What makes derivatives transactions substantially different from other securities activities, therefore, is related to the speed, complexity, and transformation of the risk profile of both corporate end users and derivatives dealers. The embedded credit risk is more complicated and less predictable than the credit risk in a simple loan because the credit exposures associated with derivatives are time-varying and depend on the prices of underlying assets. This is in sharp contrast to traditional banking lending, which is largely insulated from market risk because banks carry loans on their balance sheet at book value so that they may not recognize and need not respond to market shocks (Schinasi *et al.*, 2000). Because of these features, it is difficult to measure a firm's overall risk exposures. Derivatives may obscure the true financial position of market participants, undermining the self-discipline of financial markets.

With respect to the volatility of asset prices, academic studies do not find strong evidence that increased market volatility arises from derivatives activity. This suggests that derivatives are better viewed as a response to than as a cause of volatility in ordinary market conditions (Dale, 1996). A more important question is as to how market behavior is affected in times of financial distress or extraordinary situations. In any case, however, there is not much that regulatory authorities can do to address the volatility issue other than by establishing minimum capital requirements.

Regarding the scope of cross-border and cross-market transmission, transmission essentially takes place through two channels. In the first channel, counterparty risk in the derivatives market tends to be concentrated among a few major international financial institutions. Thus, a failure of

one major player can have major repercussions for other market participants, generating contagion. In the second channel, trading of derivatives contracts creates close linkages, not only between derivatives and the underlying cash markets, but also between different segments of the cash and derivatives markets. This opens up new channels for the communication of financial disturbances, and creates the potential for contagious disorders. Thus, international regulatory coordination and internal simulation and stress testing are necessary.

Concentration among a few major players often takes place due to: (a) the need for complex information and risk management systems in conducting such business; and, (b) the reluctance of participants in OTC derivatives markets (which lack multilateral clearing) to deal with counterparties in relation to credit-sensitive transactions, such as long-term swaps. The failure of one large derivatives dealer may inflict large losses on counterparties, while also damaging the liquidity of the derivatives market. The too-big-to-fail doctrine has not only been reinforced but may have to be extended to nonbank derivatives dealers.

With regards to instruments used for prudential regulations, capital requirements are used as effective tools to reduce risks associated with derivative activities undertaken by banks. Both the United States and Basle Accord requirements have already applied them to US banks' derivatives activities. Banks are required to comply with two types of capital requirements. One is the risk-based requirement, which applies to the credit risk associated with derivatives contracts or activities. The other is the leverage ratio requirement, which requires banks to hold capital as a cushion against losses arising from other risks associated with derivatives positions, such as operations risk.

Capital requirements promote financial stability by creating greater cushion and reduce banks' incentives to take excessive risk with more capital at risk. To ensure the banks possess sufficient capital, supervision and field examinations of banks are needed. To do so, bank risk exposures need to be measured accurately and capital requirements should be set high enough to deter excessive risk taking. Also, market value accounting principles for valuing bank assets and liabilities are a prerequisite to enhancing the effectiveness of capital requirements.²⁶ Capital

26 The 1988 Basle Accord incorporates capital requirements for OTC derivatives positions. The current replacement cost is calculated using mark-to-market valuations and then an add-on factor is added to reflect the potential future credit exposure over the remaining life of the contract. Counterparty risk weights are then applied to current plus potential credit exposure to determine capital requirement. However, this accord did not seek to address the issue of market risk. Subsequently, the Basle Committee in April 1993 published proposals for minimum capital requirements to cover banks' exposures to market fluctuations. Derivatives should be converted

requirements may mitigate the moral hazard problems induced by deposit insurance and discount window whose backing banks and their customers rely upon inappropriately, and thus give rise to greater risk in their trading activities in relation to their capital. Market participants may prefer using banks for derivatives because they are perceived to be safer counterparties. While capital requirements can be effective tools, the regulator in Asian countries should recognize that good accounting, auditing, and disclosure standards must be implemented. Furthermore, the quality of own equity should be able to be evaluated appropriately, for example through developing liquid secondary equity markets.

Other important tools for prudential regulations are the use of collateral, bilateral netting agreements, and external assessment. Recently, it is becoming increasingly important that OTC markets require collateral in some derivatives contracts, enter into netting agreements, and rely on credit ratings to assess risk. Market participants began to rely on the credit assessments of credit rating agencies when dealing with counterparty risk. Information problems associated with reduced transparency have encouraged a greater collective reliance on external credit judgements rather than on internal assessments and tended to reinforce the shift of borrowers to a few highly rated institutions. Thus, it is becoming important that institutions involved disclose period quantitative information on market risks, in addition to performance in managing those risks and counterparty credit risk plus performance in managing credit risk.

At the same time, however, the heavy reliance on external assessment has given rise to regulatory concern that a firm whose rating is downgraded by a rating agencies could face a widespread and fairly homogeneous response in the market. This homogeneous response would generate an effect on its overall access to funding sources that is potentially not commensurate with the underlying deterioration in its circumstances.

To deal with counterparty risk, furthermore, the regulator should set large exposure limits on derivatives transactions. Moreover, counterparty risk can be largely eliminated if businesses are conducted at exchange or clearinghouse structure. Since a large part of OTC contracts are of plain vanilla type, accounting for 75% of total OTC contracts, it would be possible to route much of this

into positions in the relevant underlying market and become subject to capital requirements designed to capture specific and general market risk under the building block methodology. Furthermore, the Basle Committee introduced an amendment to the 1988 Capital Accord, which reduced the capital that must be held against derivatives credit exposures which are subject to bilateral netting and subject to banks being able to demonstrate to their supervisors the legal enforceability of netting arrangements in all relevant jurisdictions. However, it is not clear whether this kind of new capital rules will help reduce overall derivatives credit exposures, since

activity through a clearinghouse (Dale, 1996). However, this proposal may not be desirable if the entire burden of monitoring and controlling risk is merely shifted to the clearinghouse. At present, a regulatory bias in favor of OTC contracts is present, since capital requirements on OTC positions are less than the cost of having to finance the margin payments needed over the life of an equivalent exchange-traded contract in the United States.

The regulator should also impose the marked-to-market valuation principle of derivatives positions, require the quantification of market risk and credit risk, and promote the use of multi-product master agreements with close-out netting provisions. The regulator should also ensure a separation between the risk management and dealing functions, and impose accounting and disclosure practices. IOSCO and the Basle Committee have issued detailed guidelines on risk management aimed at regulatory authorities and market intermediaries. The Basle Committee proposes that any institution active in derivatives dealing should be able to monitor its credit and market exposures using market-to market valuations at least daily.

Furthermore, the balance between official and self-regulation in handling the risk of derivatives has not yet been settled. From the end user's point of view, there exists a serious danger that any legal or regulatory intervention that departs from the principle of caveat emptor will invite irresponsible behavior by buyers of derivatives products. Equally, sellers of derivatives products could be faced with potentially damaging uncertainty about the status of their counterparties and the enforceability of their contracts. As far as derivatives dealers are concerned, one unsettled question involves how much reliance can be placed on market forces in dealing with the problem of transparency. On internal management controls, supervisors appear to accept that they have a responsibility to ensure that minimum standards are upheld, but how intrusive this supervision should be remains unclear. Consensus is emerging on the acceptance of internal risk models for supervisory purposes. The function of regulators is to set the risk parameters and validate the internal models.

On derivatives supervision, IOSCO and Basle are already cooperating closely. But an appropriate regulatory response to the phenomenon of large-scale derivatives trading has not yet been settled. In banking, global initiatives are the responsibility of the Basle Committee, whose focus has shifted in recent years from regulatory coordination to regulatory harmonization via centralized rule-making. In securities markets, progress towards common prudential standards—particularly in the capital adequacy area—has been slower, partly because IOSCO is a

bank derivatives dealers are able to support a large volume of gross counterparty positions.

much looser supervisory grouping than the Basle Committee. However, IOSCO has recognized the need for internationally agreed capital standards for bank and securities regulators and thus more cooperation between Basle and IOSCO is expected. In 1994, the Derivatives Safety and Soundness Act was introduced in the United States. It requires the federal banking agencies to establish common principles and standards for capital, accounting, disclosure, and examination of financial institutions using derivatives. Also, the Act requires the Federal Reserve Board and the Comptroller of the Currency to work with other central banks to develop comparable international supervisory standards for financial institutions using derivatives. Such a movement toward cross-country coordination reflects a concern that systemic risk can be increased by derivatives activities while individual firm risk can be reduced.²⁷

7. Shifting from Asset-Focused to Risk-Focused Bank Supervision

Changes in the environment surrounding the banking sector have gradually changed the way banks are supervised. Traditional bank supervision has four features. First, the bank regulator examines banks at a fixed point—generally once a year unless there is a crisis. Second, examinations are generally staffed locally. Third, significant emphasis is placed on the valuation of assets. Fourth, dialogues with management are mostly related to examination findings unless there is a crisis.

In the new environment, however, this approach is no longer an effective way to evaluate the condition of many banks. For this reason, the Federal Reserve responded to this situation in the 1990s by developing a program of risk-focused supervision (DeFerrari and Palmer, 2001). To apply such supervision, the Federal Reserve established formally the large complex banking organizations (LCBO) supervision program in 1999 to focus on banks in which changes are most dramatic with respect both to the impact of change and the speed with which changes in the banks' risk profiles can occur. The fundamental goals of this program are to maintain an accurate

²⁷ In recent years, bank regulators have been experimenting with an entirely new approach to capital adequacy assessment based on internal risk (VAR) models. This is because it has become clear that reliance on periodic bank examinations and reporting requirements becomes futile when a bank can transform its proprietary trading position and overall risk profile instantaneously through the use of derivatives. Sophisticated risk-control systems are needed to measure and track a bank's potential exposure. The supervisor could require banks to report their overall positions daily. However, this would place an impossible burden on all concerned. Thus, an alternative approach is for supervisors to focus on the process by which portfolios are selected. The regulator should set overall capital standards by instructing banks to allocate enough capital to cover, say, 99% of the loss probability distribution and then evaluate how accurately banks estimate this portfolio loss probability. This is the Basle Committee approach to setting capital standards for market risk.

and current assessment of each banking organization's financial and managerial strength and to respond in a timely manner to emerging problems. Thus, the program focuses on understanding and evaluating each institution's internal risk-management processes and control infrastructures and thus the supervisory process is continuous and more tuned to market developments.

The indicators used as criteria for inclusion in the LCBO program include the size of the organization (e.g. total assets), the extent of international operations (e.g. foreign assets and deposits, geographic scope of operations), participation in large-value payment and settlement systems (e.g., activity in payment systems), and the extent of custody operations, fiduciary activities, and trading activities (e.g. size of off-balance-sheet exposures, activity in derivatives activities, trading assets and revenue, assets under management). These measures are applied to foreign organizations with a significant US presence. The regulator evaluates six types of risk—credit, market, liquidity, operational, legal, and reputational.²⁸ For significant business lines, examiners prepare an activity risk matrix by evaluating the inherent risk undertaken by the business line with respect to the six major risk categories and then evaluating whether that risk is low, moderate, or high and whether the direction of risk is increasing, stable, or decreasing. Risk management systems include oversight by the board of directors and senior management; policies, procedures, and limits; internal risk review and management information systems; and internal control processes.

Each LCBO is assigned a team of Federal Reserve supervisors who conduct an ongoing supervisory program, based on the risks that have been identified in the organization's operations. In addition, small teams with technical expertise on such issues as credit-risk modeling, payment systems, and information technology are available to supplement individual LCBO teams. The Federal Reserve's assessment of the banking organization's risk profile is updated quarterly. The program also assesses the development of relationships with the management of the banking organization at various levels through regular and frequent communications. LCBO are reviewed not only individually but also as a group to identify common or emerging weaknesses that have the potential to become more serious or to become systemic problems.

²⁸ Operational risk refers to the potential that inadequate information systems, operational problems, breaches in internal controls, fraud, or unforeseen crises will result in unexpected losses. Legal risk refers to the potential that unenforceable contracts, lawsuits, or adverse judgments will disrupt or otherwise negatively affect the operations or condition of a banking organization. Reputational risk is the potential that negative publicity regarding an institution's business practices, whether true or not, will cause a decline in the customer base, costly litigation, or revenue reductions.

Since the Gramm-Leach-Bliley Act authorized BHC to operate as financial holding companies (FHC) and to engage in a diverse range of financial activities, the Federal Reserve now acts as “umbrella” supervisor for FHC. Risks associated with financial activities generally cut across legal entities and business lines, and most large and sophisticated financial services companies take a consolidated, or organization-wide, approach to managing their risks. Thus, the umbrella role requires the Federal Reserve to understand FHC’s corporate-wide systems and controls for managing risk and to keep primary bank supervisors and other relevant supervisors advised of any evolving problems in these areas.²⁹

Furthermore, the change in the financial environment has shifted the emphasis from “regulatory” approach to “supervisory” approach (Mishkin, 2000). Traditionally, prudential supervision has stressed on the assessment of the quality of banks’ balance sheets and loans at a point in time and has examined whether banks comply with capital requirements and other restrictions. While this regulatory approach helps mitigate banks’ excessive risk-taking behavior, the regulator has recognized that it is more important to ensure the soundness of banks’ management practices with regard to controlling risk and thus to evaluate banks’ risk management systems.

8. Integrated versus Umbrella Approach to Supervision

There is a growing international interest in the organization of the structure of financial supervision. In the past, financial supervision tended to be organized around specialist agencies for the banking, securities, and insurance sectors. This type of supervision is called “functional”. In recent years, some industrialized countries have shifted to integrate these different supervisory functions into a single agency. Denmark, Norway, and Sweden have adopted variants of the integrated supervisor model since the middle of the 1980s. Some transition economies such as

²⁹ Since many LCBO have become FHC, they have entered into a large range of activities through nonbank subsidiaries. Thus, functional regulations are added to the mix of regulatory counterparts with which effective communication and cooperation needs to take place. Functional regulators include the SEC, the Commodities Futures Trading Commission, the National Association of Securities Dealers, and the National Association of Insurance Commissioners. The Federal Reserve must coordinate with these regulators, as well as foreign supervisors. Furthermore, increased public disclosure and issuance of subordinated debt by the companies may improve market discipline, which works through changes in access to funds and changes in risk premiums as banks take on or shed risk or engage in certain types of transactions. While this issue is not a serious concern yet in Asian countries, the regulator should strengthen their regulatory capacity and adopt a forward-looking approach by taking into account issues that are likely to emerge in the near future.

Latvia and Estonia have examined an integrated approach. The rationales for the approach are that integrated supervision would permit more effective supervision of financial conglomerates and that mergers would also permit economies of scale and scope to be obtained in regulation, especially better leverage of resources in administration and infrastructure support (Taylor and Fleming, 1999).

Economies of scale can be realized through the development of joint administrative, IT and other support functions. Furthermore, integrated supervision can assist in the recruitment and retention of suitably qualified regulatory personnel, who might perceive that the career opportunities available to them will be greater than in a series of specialist agencies. Moreover, it permits the regulator to achieve efficiencies in the deployment of staff with rare intellectual capital. Economies can be also realized by gathering and using know-how in specialist areas and for the development and improvement of supervisory methods. The case of the United Kingdom reflects the emergence of financial conglomerate groups, which requires an integrated approach to their supervision.

Goodhart *et al.* (1998) have identified six reasons for the recent move. First, the rapid structural change in financial markets driven by financial innovation has challenged assumptions behind the original structuring of regulatory organization. Consequently, regulators find it necessary to respond to the issue of whether it is necessary to adjust their institutional structures accordingly. Second, the realization that financial structure in the past has been the result of a series of ad hoc and pragmatic policy initiatives has raised the question of whether a more coherent structure should be put in place. Third, the increasing complexity of financial businesses, as evidenced by financial conglomeration, has given rise to a question of whether a series of agencies supervising parts of an institution can have a grasp of developments in the institution as a whole. Fourth, increasing demands have been placed on regulation and its complexity—particularly the development for enhanced regulation of conduct of business covering pension schemes and insurance as well. Fifth, regulators find it necessary to take into account the changing risk characteristics of financial firms occasioned by financial innovation. Finally, the increasing internationalization of banking has implications for the institutional structure of agencies at both the national and international level.

Integrated regulations in the Scandinavian countries focus primarily on prudential regulation rather than conduct of business regulation. The regulators have a role in supervising business conduct on the stock exchange and detecting insider trading. However, responsibility for dealing with customer complaints and the transaction-by-transaction dealings of firms with their

customers tends to be left to various industry Ombudsman schemes. The regulators' focus is placed on ensuring the solvency of the firms for which there are responsible, especially banks and insurance companies. The regulatory authorities have been established as independent agencies under the general supervision of a relevant government ministry. Their independence is bolstered to differing degrees by the existence of supervisory boards that act as an independent check on the relationship between the Ministry and the supervisory authority. These countries, however, have not removed the banking supervision function from the central bank.

Counter-arguments to integrated regulation—or, arguments supporting an umbrella approach based on functional supervision—have been pointed out for developing countries. First, there is a fear that if banking supervision is removed from the central bank, and combined with weaker supervisory bodies for other elements in the financial system, this may lead to some adverse effects. In many countries, banking supervision has been given a priority and thus they are perceived to be the strongest of the financial supervisory agencies. It is feared that the weaker elements in the integrated agency will dilute the strength of the stronger banking element; significant numbers of banking supervisory staff may leave the integrated agency rather than taking a lowering of status. These problems may emerge until the new regulator gains credibility. Second, there is no point in integrating supervision if credit, securities, and insurance markets remain largely distinct.

Third, financial conglomerates are not prevalent in developing countries since their economies are largely bank-dominated. However, if banks begin to enter into nonbanking businesses and play a dominant role in securities and insurance businesses, the case for integrated supervision is stronger. Fourth, integrated approach requires the central bank to have strong guarantees of independence. Otherwise, removing bank supervision from the central bank may have a detrimental effect on the independence and quality of the banking supervisory function. This problem may be relevant in developing countries where guarantees of independence from political interference can be difficult to establish. Fifth, even though cost of the umbrella approach may be higher than that of integration supervision—since the latter is able to exploit the economies of scale and scope and at the same time, information exchanges and policy coordination may be more smoothly done by the latter—it may be politically difficult to integrate all existing relevant regulators. Furthermore, the perception of creating an even bigger regulator may give the public a reason to oppose to it.

In Asian developing countries, an umbrella approach may be desirable since the prudential supervision and regulations in the banking sector has not strengthened to a satisfactory level. The

premature integration of various regulators may weaken confidence of the overall regulatory regime and capacity of bank regulator.

V. The Organizational Form of the Intermediate Financial Structure

In addition to the new regulatory issues explored in Section IV, one more important regulatory issue is whether problems associated with nonbanking services should be dealt with by setting legal separation such as firewall provisions, or by setting operational separation.

1. Legal Separateness and Operational Separateness

Legal separateness leads to the development of separately capitalized units in the conglomerates. Each unit has its own management team and its own accounting records and offers its own products. Furthermore, limited liability protects each unit's shareholders from losses in the event of the failure of any other unit of the conglomerates. For example, the bank regulator could ensure the institutional separation of banking and securities activities, as practiced in the United States under the Glass-Steagall Act. On the other hand, operational separateness limits the joint management of the separate units that are part of a conglomerate. It usually results from restrictions on the exchange of information, personnel or other inputs among different units.

Advantages of Separateness

There are several advantages to implementing separateness regardless of whether it is legal or operational. First, it insulates banks from risks in their conglomerates' securities activities. This reflects a perception that securities activities are riskier than traditional banking and thus increased risk should be dealt with accordingly, since the risk of failure increases and expands the liabilities of the safety net.

Second, it limits the competitive advantage to the subsidiary which is said to benefit the institutions with access to the safety net. If banks engage in securities in house, the safety net coverage would be extended to these activities and banks would have a competitive advantage over securities firms because they can cross-subsidize their securities operations.

Third, it reduces potential conflicts of interest. It can implement compensation schemes for each unit management team, aimed at reducing the incentives to exploit conflicts (Sanders, 1985).

It permits the introduction of firewalls explicitly designed to limit management's ability to exploit conflicts.

Fourth, it facilitates the regulation and supervision of banking conglomerates. It is easier to supervise. It facilitates the adoption of functional regulations, which is considered to be easier to implement than institutional regulations (Herring and Santomero, 1990). It allows banks to be regulated differently from securities firms, which is important because of differences in the types of risk faced by the two entities and because it levels the playing field in a system where banking conglomerates co-exist with independent securities firms (Ferrarini, 1995).

Disadvantages of Separateness

On the other hand, there are disadvantages with respect to the implementation of separateness. First, the market does not perceive the units of a conglomerate to be independent even when legal and operationally separateness is guaranteed from each other. This is because conglomerates have an incentive to protect their member units from bankruptcy, even if it is necessary for them to go beyond their equity investment in the financially distressed unit. The purpose of doing so is to protect the market assessment of the conglomerate by preserving the reputation of their management capacity over the distressed units and shielding other units from potential contagion effects resulting from the failure of a member unit.

Second, courts may pierce the corporate veil. In general, limited liability does not give the creditors of one unit a claim on the assets of another legally separated unit of the conglomerate. However, there are exceptions to this rule. In a banking conglomerate, if the securities unit misled its creditors into thinking that they were dealing with the bank, then courts may hold the bank liable for the debt of the securities unit.

Third, a conglomerate places more emphasis on its consolidated accounts than on the separate accounts of the units, and the market may perceive them as dependent.

Fourth, there are strong incentives to manage a conglomerate as an integrated entity to exploit scope economies rather than a portfolio of independent firms. The separateness forces the adoption of a more expensive organizational structure and reduces the scope economies on the production side. Corporate separateness requires the development and operation of a more costly organization because of the cost of developing and operating an additional separate unit, limits the conglomerates' ability to exploit economies of scope, and introduces a new series of distortions

such as the agency problems associated with multiple management teams (Santos, 1998).

Fifth, the separateness may increase agency problems arising from the separation of ownership from control owing to the divergence between shareholders' and managers' objectives. It introduces one additional management team in the conglomerates and thus, may become the source of conflicts of interest. If the banking unit's capital and securities unit's capital are not owned by the same shareholders, there are opportunities, such as through the transference of assets between two units, to favor one group of shareholders at the expense of the other (Edwards [1979] and Saunders [1985]).

Sixth, corporate separateness is sometimes blamed for giving conglomerates an incentive to move some operations from banks to securities units, leading to a reduction in the banks' asset base. Conglomerates may move profitable projects and low risk projects from bank to securities because of the differences in regulation and supervision of banking and securities units (Eisenbeis, 1996).

Organizational Form of the Intermediate Financial Structure

The choice of financial system design rests on the trade-off expressed above. Also, one needs to consider that there is a vital link between the behavior of commercial banks and developments in capital markets. In Germany, for example, it is frequently pointed out that the holding of securities by major banks has deterred the development of viable capital markets. The amount of these holdings typically account for little more than 10% of total assets, suggesting that banks do not play an active role in the securities markets. By contrast, in the United Kingdom, banks are able to freely choose various organizational forms and the amount has reached 50% or more of total assets.

A universal banking (UB) model is commonly observed in traditional banking regimes in Europe. Since securities and banking business are freely combined within the banking entity, the risks involved in two activities are pooled. In this model, there is a single regulatory authority that applies a common capital adequacy regime to the combined business. This is called "institutional regulation". Furthermore, the trading book approach can be viewed as a variant of UB model and has been adopted in EU Capital Adequacy Directive. Under this approach, banks are permitted to engage freely in securities activities either directly or through securities subsidiaries. However, in either case, securities activities as defined by the trading book are subject to a capital adequacy regime separate from that for the banking business (Chart 6).

<Chart 6 insert around here>

The bank holding company (BHC) model based on the Glass-Steagall Act is a separation model since banks are not permitted to undertake securities business or to own securities firms. The banking and securities industries are separately regulated in accordance with industry-specific capital adequacy rules. This type of regulation is called “functional regulation”; it attempts to ensure that the risks incurred by banking and securities businesses are kept separate, while the economies of scope from combining two activities are foregone.

The subsidiary of banks model or BHC model segregate risks associated with banking and securities business undertaken by financial conglomerates with firewall provisions. In the subsidiary of bank model, two businesses can be conducted through different legal entities separated by firewalls, but restrictions are imposed on intra-group transactions to prevent risks being transmitted from the securities unit to the banking unit. This approach was reflected in legislative proposals to repeal the Glass-Steagall Act and has been applied to Section 20 subsidiaries of US banks.

The choice of organizational corporate structure depends on whether supervision should be institutional or functional (Dale, 1996). If supervision is organized along functional lines (e.g., with separate agencies undertaking the supervision of banks and securities firms), the problem of cross-functional regulatory coordination has to be addressed. Thus, “consolidated supervision,” as experimented with in the United Kingdom, may be desirable to improve the effectiveness of regulation over various relevant financial institutions. When a bank has securities subsidiaries or affiliates, the bank regulator should consider various questions: should it take account of the risk incurred by the securities operations and if so how? Should the two parts of the business be fully consolidated in an accounting sense for the purpose of calculating capital adequacy and other prudential ratios? Should a bank be consolidated with its related securities entity so as to eliminate transactions between the two and thereby remove large exposure restrictions that might otherwise apply to the bank’s funding of its securities unit?

2. The Universal Banking Model

The universal banking (UB) regime creates a situation in which the heavy social costs associated with bank failures are carried over into the securities market. Arguably, it is the mixing of banking and securities business within banking groups, rather than the special

characteristics of investment firms, that provides a rationale for the regulation of the latter. Universal banks are supervised by a banking sector regulator and the regulation is based on organizational separateness (see Appendix IV with respect to German universal banks).

Advantages

The first advantage of universal banking, as observed in Germany, is that a bank can maintain long-term relationships with a borrower and thus recover losses incurred at an early stage of the relationship by gains incurred at a later stage. An institution that offers both lending and securities services can fulfill the firm's funding needs throughout a financial life cycle. Otherwise, when firms mature, they switch to capital markets.

A firm begins banking relationships by taking very short-term loans from banks. As its prospects become sufficiently clear to the bank, the bank begins to underwrite securities for the firm and place those issues within the bank's network of trust customers. This bank as an underwriter retains control over the voting proxies associated with stock issues in its role as trust account manager. Thus, a bank operates on both sides of equity transactions, functioning as an underwriter, a trust account purchaser and a proxy manager. The bank's involvement in the issuing firm predates and follows the underwriting transaction. The bank knows the firm's track record prior to floating its stock and remain actively involved in corporate governance by concentrating proxy voting power in the banker's hands.

A universal bank model allows for a smoother extraction of the "quasi-rents," which enable the bank to maintain a long-term bank-firm relationship. A universal bank can extract rents over a longer time horizon and thus, financial costs in the early stages of the relationship may be lower than in a specialized banking system. Berger and Udell (1995) have found that borrowers with longer banking relationships obtain better financing conditions in terms of both collateral and interest rates. By contrast, Petersen and Rajan (1994) fail to find a positive association between the duration of the relationship and the interest rate charged, but do find a positive impact on credit availability.

By contrast, in the United States, this degree of continuity is lacking in firms' financial relationships since commercial bank lending and investment bank underwriting were hampered by the fragmentation of the financial system. As a result, industrial lending and securities underwriting became unnecessarily expensive and commercial banks became less involved in industrial lending in the United States than in Germany (Calomiris, 1995). This lack of

involvement by banks was a new development, since before the second industrial revolution US banks had allocated most of their funds to industrial firms owned and operated by bank insiders. By the end of the 19th century, they had switched to financing commercial needs of outsiders and developed commercial lending departments and financial ratio analysis for evaluating these arms-length loans.

The second advantage is that universal banks are able to fully exploit the advantages of information by allowing the bank to learn more about a firm through observing its behavior with respect to a greater number of financial instruments. This organizational form gives a bank the opportunity to use the information it collects by monitoring the firm's checking account in various businesses rather than just in lending decisions. Peter and Rajan (1994) have found that the larger the number of services a bank provides to a firm, the greater the availability of funding.

If a bank and a firm expect to do business for a long time, furthermore, the bank is willing to invest in gathering information about the firm and to spread the costs of such investment over a longer time horizon, reducing the up-front cost of capital to the firm. The information available about a firm, its financial needs and its reputation change over its life cycle. Thus, a firm's ability to raise funds through the various financial instruments and its ability to access the different instruments also change over its life cycle.

Third, universal banks may lower underwriting costs. Calomiris (1995) has examined whether universal banking reduces corporate financing costs by comparing the cost of financing industrialization in the United States and Germany during the second industrial revolution. Based on the spread (commission) earned by the investment bank (the main component of underwriting cost), German equity underwriting costs were lower than those of the United States. In a world with perfect information and no physical transaction costs, underwriting cost differences between universal banks and independent investment banks would be zero. However, in a world where information and transaction costs are large, this cost may be high because firms may find it difficult to sell their claims to buyers, giving rise to a wedge in the Euler equation that equates the marginal cost and marginal product of firms' investment projects.

Regulation under the UB Model

Theoretically, bank regulators are able to regulate and monitor banks' engagement in nonbanking activities by applying differential capital requirements or adopting the trading book approach. However, in practice, there are a few problems. Under the UB model, for example,

banks may become riskier on account of their securities activities. This is not because the securities business per se is riskier, but because it involves greater reliance on subordinated debt as capital. Also, if the trading book approach is adopted and thus different capital adequacy requirements are applied depending on the types of businesses, banks may expand securities activities relative to conventional banking businesses, because of the preferential capital requirements.

Furthermore, universal banks may displace nonbank investment firms by expanding their in-house securities businesses, reflecting their funding advantages. This is because as universal banks increase the scale of their securities activities, the lender of last resort function and other bank safety net arrangements are likely to be extended to securities markets. Moreover, it may open regulatory arbitrage between banking and trading books since large incentives of such practices may be generated by differential capital rules. For example, banks may be inclined to present long-term investments as trading assets. They also may classify any financial instruments which are held with the intention of ultimate resale or for short-term gains as trading book assets.

Moreover, monitoring the boundaries between them is costly and difficult to achieve. This is particularly true when the distinction between the banking and trading book comes from the distinction between those securities that are to be held for short-term and longer-term holdings, disregarding the fact that securities themselves have long- or short-term maturities. It is not clear whether the securities represented by the latter are different from the former. Some may say that banks loan portfolios should be treated no differently for capital adequacy purposes than securities holdings. Thus, the trading book concept should be used for the purpose of achieving competitive equality between banks and investment firms.

Empirical Evidence

In the United States, banks operating abroad have been permitted to engage in securities underwriting and other domestically prohibited activities through overseas affiliates. These activities do not appear to have substantially increased the riskiness of these institutions. Whalen (1997) has stressed that no strong evidence was found that the combination of commercial banking, investment banking and insurance in universal banks and financial companies operating in Europe has increased the likelihood that such institutions would fail in the absence of firewalls. In these regions, bank failures appear to have stemmed largely from involvement in traditional banking activities. Moreover, private market financial ratings of universal banks have generally been above those of less diversified US commercial banking organizations (for the case of EU

regulation, see Appendix V).

Vennet (2000) has shown that financial conglomerates are more revenue efficient than more specialized competitors and that the degree of both cost and profit efficiency is higher in universal banks than in non-universal banks. Analysis of stock market data leads to the conclusion that the higher observed revenue efficiency of universal banks may be linked to their superior ability to deal with moral hazard through monitoring. Profit regressions show that operational efficiency has become the major determinant of bank profitability and that oligopolistic rents have become less prevalent in European banking. Thus, Vennet has concluded that the current trend towards further de-specialization may lead to a more efficient banking system. By contrast, Lang and Welzel (1998) have shown that cost scope efficiency of German universal banks was absent. When the provision of loans and investment-oriented services is performed within the same institutions, they claim, these financial services give rise mostly to diseconomies. Kwast (1989) has analyzed correlation between banks' eligible trading and nontrading assets and has found that banks' engagement in eligible securities activities offers limited potential for diversification gains.

3. Banks with Nonbanking Subsidiaries or BHC with Nonbanking Subsidiaries

Both models are designed to protect insured depositors from the presumably greater risks associated with nonbank activities, such as securities underwriting, in conjunction with firewalls. Legal separateness requires that banking organizations take a series of actions to demonstrate that the bank and nonbank affiliates are truly distinct companies. This means that relevant firms are required to prepare separate accounting records, hold separate board meetings, maintain some separateness of employees, officers and directors, and maintain separate facilities. Legal separateness attempts to avoid actions that convey the impression that the bank is liable for the debts of the nonbank affiliate or that the liabilities of the nonbank entity are insured obligations. By ensuring that nonbank affiliates are adequately capitalized, risk to the parent and bank co-affiliates of any nonbank affiliates are legally limited to any equity investment in it, or to losses on outstanding loans to it.

Under the subsidiary of the bank model, both banks and their securities subsidiaries are supervised by a bank regulator. By contrast, under the BHC model, banks and securities firms are both subsidiaries of the holding company; the former are supervised and regulated by the bank regulator while the latter are supervised and regulated by the securities regulator. Under these models, commercial banking activities and securities activities are conducted by legally distinct

entities with separate management teams and separate capital and thus based on legal separateness. While integration is partially achieved, it is constrained by the restrictions on the financial and operational relationships between the bank and the securities subsidiary. The parent company directly benefits from profits earned at both subsidiaries. The difference is that under the bank subsidiary model, a bank reaps profits and bears losses associated with securities activities, whereas under the BHC model, a bank is not exposed to nonbank losses and profits earned.

The rationales for the subsidiaries of banks and BHC models are to ensure that the safety net coverage for the traditional banking activities is maintained and that potential conflicts of interest that are claimed to arise within single units are eliminated. Furthermore, these models insulate the banking unit from the risks associated with the securities activities and eliminate competitive advantage that an organization like a universal bank can have in offering securities services because of its access to the safety net. Legal separateness allows for functional regulations, which are claimed to be easier and less expensive to implement than institutional regulations.

Firewalls constrain the ability of banking organizations to transfer risks from nonbanks to banks. For example, banks could be prohibited from lending more than 10% of their capital and surplus to a single affiliate and no more than 20% to all affiliates combined. A regulator could also require banks to make those loans collateralized and prohibit them from purchasing low quality assets. Moreover, inter-affiliate transactions must be conducted at terms consistent with arms length dealings. In this way, these firewalls would limit funds flows between banks and nonbank affiliates. They are not meant to prevent all risk shifting; rather, they are meant to prevent only a shifting of undue risk from nonbanks to insured banking affiliates. Tighter firewalls could reduce such a risk shifting, but a regulator should be careful not to impose too stringent firewalls so that securities activities become costly and less attractive to banks.

On the other hand, markets do not perceive the units of a conglomerate to be independent of each other despite their being legally and operationally separated. This is because the conglomerate has an incentive to manage its units as an integrated entity rather than as a portfolio of independent firms to exploit economies of scope. If one of its units gets into financial distress, the conglomerate has an incentive to go far beyond its equity investment in the financially distressed unit because an appeal to the limited liability clause may be costly. There are many examples of banks helping financially troubled nonbanking affiliates to protect the reputation of its management and shield other units from any potential contagion effects resulting from the failure of a member unit. Some of the conglomerates' practices and certain procedures of the

supervisory agencies can also influence the market's perception of independence among the units of a conglomerate. For example, emphasis on consolidated financial reporting or procedures whereby the authorities oversee the financial affairs of nonbanking units as well as those of the entire conglomerate will reinforce the integrated entity perception in the market.

Based on the evidence of the 1920s, furthermore, Rajan (1996) has pointed out that commercial banks that integrated their lending and underwriting operations tightly did not get as good a price for the securities they underwrote as did those that voluntarily set up firewalls between the two operations and had separate boards for operation. This is because the former had a tendency to be overoptimistic when they reported the performance of firms to whom they extended credit, which induced investors to suspect the analysis and advice they received from these commercial banks. This suggests that commercial banks that wish to enter into new businesses should be aware that organizational, compensation, and control structures must be adjusted accordingly.

With respect to banks' ability to transfer subsidies to their affiliates, they can transfer the subsidy through capital infusions into the securities units on terms that favor the latter under the subsidiaries of the bank model. However, the ability to use this channel can be blocked by requirements that a bank's investment in its securities subsidiary be subtracted from the bank's capital for meeting prudential capital requirements. In the BHC model, it is difficult for banks to use this channel since the capital of the securities unit is an investment of the BHC and there are restrictions on the dividends that a bank can pay to the BHC.

Whalen (1997) has pointed out that banks appear to prefer the bank subsidiary model over the BHC model, when choices are given. For example, banks tended to place securities activities in subsidiaries during the period prior to the Glass-Steagall Act. There is evidence that securities underwriting through bank subsidiaries did not substantially increase bank risk at this time, even though the securities affiliates were substantially less constrained by regulation than would be the case today. Furthermore, 85% of the assets of all foreign subsidiaries controlled by US banking organizations are either directly bank-owned or controlled through bank subsidiaries, suggesting a general preference of the UB model or the subsidiary of the bank model. In addition, even in countries that permit universal banking, some banks choose to conduct certain activities in subsidiaries of the parent banks rather than in the banks themselves.

4. Bank Holding Companies with Nonbanking Subsidiaries

Advantages of this organizational form over the forms of universal banking and bank subsidiaries can be summarized into four factors. First, the BHC form is able to shield banks against the risks that securities activities may entail. It is able to derive the benefits of conducting securities businesses without placing the stability of the banking system in jeopardy.

Second, it promotes a level playing field between banking and nonbanking competitors. By allowing holding companies' affiliates to conduct risky securities businesses, these affiliated securities firms would be placed outside of the bank regulation because bank affiliates are protected by firewall provisions. Since both securities subsidiaries of BHC and independent securities firms are regulated under the same securities market regulations, they stand on a level playing field, promoting competitive equality in the funding of securities activities.

By contrast, in the case of the UB and bank subsidiaries models, securities activities are subject to the bank regulation, whereas independent securities firms are subject to the securities regulation. This will generate a regulatory duplication in those securities or insurance industries that are already subject to securities market or insurance system regulations. In addition, universal banks or bank subsidiaries would tend to have a lower cost of funds, because they are protected by the government through such devices as deposit insurance and access to a lender of last resort under the bank system regulation.

Third, firewall provisions would require securities activities to be conducted in holding company affiliates and would force those securities firms to find their own funding in the market place, or alternatively, if funded by bank affiliates, to pay market interest rates. In this way, firewall provisions also ensure a level playing field between affiliated securities firms and independent securities firms.

Fourth, the BHC model makes it easier to limit the safety net coverage to traditional banking activities, provides better insulation to the bank from problems from other units, and gives the bank less incentive to bail out a securities unit because this is a sister affiliate rather than a directly owned subsidiary. But the subsidiary of the bank model can be less expensive to develop and operate because it does not require an additional company—the holding company. It gives the bank more control over its securities unit's profits and gives banks' creditors a claim over a larger pool of assets because the securities unit capital is an asset of the bank.

The Validity of Firewall Provisions

For a long time, few countries, outside of the United States adopted a BHC model (see Appendix VI). Thus, empirical tests on the validity of firewall provisions are difficult not only because country data are limited, but also because even in the United States securities activities under BHC were limited so that there are few cases that caused serious problems for the consolidated organization. In the United States, there were two episodes that could be used to examine the validity of firewall provisions (Tally, 1991).

The first case is that of Beverly Hills National Bank of 1973. Prior to 1973, a small bank holding company in California named Beverly Hills Bancorp (holding company), which owned Beverly Hills National Bank, issued commercial papers to extend loans to borrowers involved in commercial real estate projects. Much of the commercial papers were sold to customers of the bank subsidiary, Beverly Hills National Bank. When one of the large borrowers defaulted, the holding company was unable to pay off its maturing commercial papers and fell into bankruptcy.

Owing to the adverse publicity that accompanied the bankruptcy and the close public identification of the bank with the holding company, Beverly Hills National Bank experienced large-scale bank runs in spite of the separateness assured by firewall provisions. This happened even though the bank's own exposure to the real estate development company was modest and secured, and the bank was solvent. The deposit run culminated in a voluntary merger of the bank in January 1974. Since this bank became temporarily illiquid though maintaining its solvency, the bank regulator required it to merge with another bank. This episode suggests that firewalls cracked, since the spillover effect took the form of a loss of market confidence in the bank.

The second case is that of Hamilton National Bank of 1975. This bank was owned by Hamilton Bankshares, a holding company, and one of the largest banks in the State of Tennessee. In the early 1970s, this holding company set up a mortgage banking company and rapidly expanded the company's operations. The mortgage company was funded by parent company commercial papers. Within a short period of time, however, the mortgage company accumulated a large amount of non-performing loans. Consequently, the market became concerned about the company's real estate exposure and thus, the parent company faced difficulty in rolling over its papers and encountered funding problems.

In order to save the company, the management of Hamilton Bankshares arranged for Hamilton National Bank to buy a large amount of the troubled mortgages of the company. The mortgage company increased its loan sales to Hamilton National Bank and the bank regulator found, in September 1974, \$100 million of real estate loans from the mortgage company, plus an

additional \$30 million in loans from other affiliates, on the books of the Hamilton National Bank. This exposure represented a violation of Section 23A of the Federal Reserve Act, and the regulator ordered the bank to correct the problem. Ultimately, the bank failed in February 1976 due to its real estate exposure. At the time of failure, 87% of the bank's problem loans had been acquired from the mortgage banking subsidiary. This is an incident in which firewalls cracked because the spillover effect involved massive adverse transactions. Firewalls thus can break down in extreme situations. The effectiveness of separateness and firewalls depends on the strength of incentives to penetrate them and thus, supervisory burden will be lightened if incentives are diminished.

With respect to "piercing the corporate veil," there have been no such cases observed in the United States so far. This case occurs when creditors of the affiliate successfully sue the bank to honor the debts of its affiliates in the event of the failure of a bank holding company affiliate. A court ruling, if that happens, would effectively nullify the technical legal separation of affiliated corporations. Courts might permit piecing in cases where the business affairs of affiliates have been extremely commingled, the affiliates have operated or held themselves out to the public as a single entity, or the policies of the failed affiliate were directed to the interest of surviving affiliates, rather than to its own interests.

Tally (1991) has pointed out that there is almost a universal agreement among lawyers, bank regulators and academics that courts in the United States are unlikely to pierce the corporate veil, except in extraordinary cases that involve a gross commingling of the business affairs of separately incorporate entities.

After the occurrence of the above two incidents, the Federal Reserve Board shifted its policy from relying on the market to discipline the financial affairs of bank holding companies and nonbank affiliates. It decided to subject bank holding companies and their nonbank affiliates to a bank system regulation with on-site examinations, off-site surveillance and extensive financial reporting requirements. The fact that the Federal Reserve Board continued to subject bank holding companies to a bank system regulation even though no known spillover problems appeared since the mid-1970s suggests that it did not have great faith in the firewall concept.

These observations suggest that it may be very difficult to insulate banks from bank holding company problems. If the firewalls develop cracks, as evidenced by the two aforementioned episodes, most of the alleged advantages of the BHC model would disappear. If the insulation is not possible, the government may subject BHC to a bank-type regulation, as was the case in the

United States, thereby spreading this type of regulation to other areas of finance. Consequently, the advantages of an equal playing field and regulatory equality would be eliminated.

To prevent the spillover effect of BHC problems to banks by forcing banks to conduct adverse transactions (and thus to avoid the second episode), regulators should be able to monitor these transactions and distinguish those that are conducted on terms that are entirely fair to banks from those that are not. However, this may not be possible since it is difficult, for example, for a regulator to determine whether the amount of management fees that banks pay their holding companies is appropriate for the services rendered to the banks (Tally, 1991). Furthermore, it is difficult for a regulator to judge whether the tax payment that banks make to their holding companies to cover their shares of the consolidated organizations' tax liabilities is appropriate, or whether the banks' operations have been manipulated in various ways to maximize these tax payments (inter-company transactions). Moreover, disparate bank holding company managements will knowingly violate banking laws by forcing their banks to bail out failing holding company affiliates.

Preventing the spillover effect of BHC problems to banks through a loss of market confidence (thus to prevent the first episode) is a difficult task. This is because depositors often closely identify their banks with the holding companies and see the entire bank holding company organization as a single entity, ignoring the fact that the organization actually is composed of a number of legally separate corporate entities. This identification emerges because bank holding companies often attempt to project a single entity image through giving similar names to their various units, and giving rise to an image of a single entity through name recognition and reputation. Furthermore, BHC often operate their organizations as a single entity, influencing the tendency of market participants to see them as a single entity. Moreover, bank holding companies undertake most or all of their financial reporting on a consolidated basis, contributing to a single entity perception in the market place.

Even if the market does not perceive BHC and their banks as single entities, the failure of BHC may incur a large-scale bank run since depositors may view other affiliates in the same organization as being in trouble. Such a perception is generated when major units of BHC are managed by essentially the same group of staff and the market fears that the banks may be abused in a desperate attempt by the bank holding company management to bail out the troubled affiliates.

Evidence on Conflicts of Interest: the Case of US Subsection 20 Subsidiaries

Kwan (1998) has found that combining a Section 20 subsidiary with a bank subsidiary can improve a BHC's risk return trade off. Boyd and Graham (1988), furthermore, have stressed the risk-reduction potential of merging BHC with other financial firms by stimulating cross-industry mergers.

Gande *et al.* (1997) have empirically analyzed the impact of conflicts of interest and certification effects by examining the pricing of issues underwritten by Section 20 subsidiaries and also by distinguishing the purposes of issue into (a) refinancing existing bank debt and (2) others. Section 20 subsidiaries are similar to subsidiaries of bank holding companies with the exception that more restrictions are imposed on the sharing of informational, financial, and real resources among Section 20 subsidiaries and the bank holding company by firewall provisions. This kind of analysis is difficult to conduct in the period prior to the Grass-Stegall Act, since there is little information on the purpose of the issue.

In the post-Section 20 period beginning in 1989, Gande *et al.* (1997) have analyzed features of the securities underwritten by banks as compared with those underwritten by independent investment banks. Based on the dollar value of underwriting of fixed-rate nonconvertible debt, he selected top 20 underwriters; of which, four were Section 20 subsidiaries of money center banks (namely, J. P. Morgan, Bankers Trust, Citibank and Chase Manhattan Bank). Out of 670 fixed-rate US nonconvertible debt issues, only 80 issues (accounting for 12% of total issues) were underwritten by Section 20 subsidiaries.

Their findings were that 31% (25 out of 80 cases) of bank underwritten issues were of small issues (less than \$75 million in size), whereas only 8% (47 out of 590 cases) of investment bank underwritten issues were of smaller issuer. The average issue size of bank underwritten issues was \$107 million, whereas that of investment bank underwritten issues was \$189 million. This difference was supported by the univariate t test at a significance of 1%. This is consistent with the view that established investment houses have neglected smaller issuers. It may be argued that such results are explained by the fact that Section 20 subsidiaries of commercial banks were new to the underwriting businesses and may have been forced initially to focus on smaller issues to gain expertise.

However, the sample period begins from 1993—four years after the granting of debt underwriting powers—which presumably would have allowed them sufficient time to establish distributional channels for underwriting all sizes of issues and to gain the necessary expertise to

compete with investment banks for larger issues if they so chose. Furthermore, interestingly, the average issue size that banks have underwritten has declined over time in absolute terms as well as relative to the average size of issues underwritten by investment banks houses. The average issue size dropped from US\$137.5 million in the first quarter of 1993 to US\$54.55 million in the first quarter of 1995. The average issue size underwritten by banks was 64% of the average issue size underwritten by investment houses in the first quarter of 1993, but had declined to 23% by the first quarter of 1995. Since small size issues are usually associated with smaller companies, this result is consistent with the view that banks bring debt issues of smaller companies to the capital market—contrary to the perception that greater banking powers as a result of banks' entering into securities businesses would hurt smaller firms' access to the capital market.

Furthermore, Gande *et al.* (1997) have shown that banks have brought a larger proportion of lower credit rated (Caa-Ba3) issues to the market than investment banks both in terms of number of issues (43% as compared to 38%) and the dollar volume of such issues (52% as compared to 36%). These results are consistent with the view that bank underwriting provides a net beneficial impact to such firms. Moreover, Probit analysis also suggests that whether a bank underwrites a debt issue depends largely on the smallness of issue size. This implies that banks do not have a higher probability of underwriting debt issues since their primary purpose to do so is to refinance existing bank debt.

Regarding yield differences on debt issues, Gande *et al.* (1997) has found no statistically significant difference between the yield spreads on similar debt issues underwritten by banks and investment banks. Higher credit-rated issues lead to lower yield spreads. However, it was found that bank underwritten issues, where banks hold a significant lending stake through their commercial banking affiliates, reduce yield spreads by 27 basis points for lower-credit rated issues (Caa-Ba3) for a one-unit increase in outstanding lending exposure to the issuer. Since one unit of outstanding lending exposure amounts to \$1.7183 million of lending exposure, bank underwriting would reduce yield spreads by 16 basis points per \$1 million of lending exposure to the issuer. These results are consistent with the view that association with banks is valuable for such issuers due to the bank's dominant certification effect.

In addition, when debt securities are issued for purposes other than repaying existing bank debt, and the bank retains a significant lending stake through its commercial banking affiliate, yield spreads were reduced by 42 basis points for lower-credit (Caa-Ba3) rated issues. Where the stated purpose of an issue is to refinance existing bank debt, there is no statistically significant difference between yield spreads on similar debt issues underwritten by banks and investment

houses. These results are consistent with a dominant net-certification effect of bank underwriting. The results also suggest that there was an implicit breach of firewalls in which bank underwritings had a net certification effect for investors.

Alternatively, it could be argued that this result comes from investment bank underwriters serving different markets from commercial bank underwriters, with prices reflecting different degrees of market power. If this view is correct, then a reduction in yield spreads for all bank underwritings would have taken place, rather than the source of the reduction being the bank's lending relationship with the issuer. Thus, it is the extent of the bank's lending relationship with the borrower that matters rather than the underwriter type. Since higher credit-rated borrowers such as AAA-rated borrowers have more choices than lower credit rated borrowers, banks should be able to extract more rents from the latter group. If banks have monopolistic power, bias would be expected to be against finding a net certification effect for low quality issuers.

Rationales for Regulating BHC

Furthermore, when banks are subsidiaries of BHC or entities that control regulated financial intermediaries (such as depository institutions, insurance companies, securities firms) and also own controlling interests in other unregulated affiliates, there are unsettled issues as to whether BHC should be regulated and if so, how they should be regulated.

In the United States, the Banking Holding Company Act of 1956 and related statutes imposed substantial restraints on BHC with controlling interests in banks, while other kinds of financial holding companies such as firms with controlling interests solely in insurance companies and securities firms are governed by analogous through less intrusive legal regimes (Jackson, 1997). Before taking into account the issue of whether different degree of regulations should be imposed between BHC and other financial holding companies, it is important to understand why these financial holding companies should be subject to special supplemental regulation while holding companies of other business enterprises such as large manufacturing firms or major defense contractors are not.

Some may argue that if the purpose of imposing a capital requirement on BHC is to backstop solvency regulation (capital regulation) on regulated subsidiaries, one needs to answer why such a BHC regulation is effective in achieving this purpose if direct capital regulation of their subsidiaries can be undertaken (Jackson, 1997). If the justification for BHC capital regulation is placed on the perceived weakness of solvency regulation at the subsidiary level, one might

reasonably think that a more appropriate regulatory response would be to deal more directly with the problem by enhancing the capital regulation of regulated subsidiaries.

Jackson (1997) has emphasized that the answer to this question hinges on the special nature of the regulated subsidiaries that BHC control and that the justifications for regulating financial holding companies are derivative of the justifications for regulating financial firms directly. The rationale for regulating BHC per se is implicitly based on the proposition that the regulation of their subsidiaries—whether those are banks, insurance companies, or securities firms—is incomplete or inadequate.

BHC capital regulation could be employed to supplement the solvency regulation imposed on their subsidiaries or alternative supplementary regimes for firms operating outside of the BHC structure. If resources of subsidiary institutions were used to finance BHC activities through loans or other forms of investment, then the regulated subsidiaries would to some degree assume the risks associated with expanded BHC activities and the risk characteristics of those activities would be transmitted to them. Furthermore, regulated financial intermediaries might manipulate the allocation of credit to favor affiliated firms in a manner that could cause competitive harm through providing below-market financing to affiliated entities or withholding credit from competitors of affiliate firms. A related competitive harm attributed to BHC would involve tying arrangements, whereby regulated financial firms require their customers to purchase goods or services from affiliated entities as a condition to receiving credit from the intermediary.

Basic Holding Company Proposal

Tally (1991) has proposed a so-called “Basic Holding Company Proposal.” According to this proposal, any bank that wants to operate securities businesses should be required to form a holding company and then conduct all riskier activities in the holding company subsidiaries, rather than directly within the bank. These riskier activities should be conducted either in the holding company itself or in nonbank subsidiaries of the holding company, while the bank continues to engage in traditional banking activities that involve bankable risks.

Furthermore, each country should develop laws and regulations with firewall provisions that are designed to insulate the bank from financial problems that might occur in the holding company or its affiliates. The firewall provisions would include: (1) strict quantitative limitations on bank loans or other extensions of credit to holding companies or their subsidiaries, as well as tight limits on bank purchases of securities or other assets from these affiliates; (2) requirements

that all bank transactions with affiliates be on market terms—on terms and conditions that are substantially the same as those on bank transactions with nonaffiliated parties; and (3) provisions that would prevent holding companies from extracting excessive dividends from their bank subsidiaries that would unduly deplete those banks' capital.

Tally has stressed that holding companies should be subject to little or no supervision by bank regulatory authorities. This is because the financial affairs of these holding companies could be disciplined largely or entirely by the marketplace through inter-bank markets and/or capital markets. Thus, prudential regulations on holding companies are not needed if their bank subsidiaries can be effectively insulated from holding companies' financial problems.

The Fail-Proof Bank (Narrow Bank) Proposal

Tally (1991) has introduced another proposal on the BHC model. According to this proposal, banks' traditional deposit issuing and lending functions should be separated. Banks would be confined to issuing deposits and investing in virtually risk-free assets, such as short-term government securities or perhaps high quality commercial papers. All previous bank activities that involve risk would be transferred to bank holding company affiliates. Moreover, banks would be required to closely match their asset and liability maturities to eliminate interest rate risk. Furthermore, they would be prohibited from engaging in bond trading, foreign exchange trading, or conducting various off-balance sheet activities.

In this way, banks would be required to obtain a small amount of capital that would be sufficient to absorb any remaining, unavoidable risks. Any transactions between banks and their bank holding company affiliates would have to be on market terms and a regulator would closely monitor all inter-company transactions to make sure that the banks were not being abused. These banks would be virtually risk-free since the government would fully insure all bank deposits without exposing the government to any significant losses. From the view of depositors, this insurance would constitute a strong second line of defense behind a virtually risk-free bank.

In this proposal, BHC affiliates would not be subject to bank-type regulation and instead, would be disciplined by the market. This is possible since banks can be almost perfectly insulated from bank holding company financial problems. This proposal would also eliminate any possibility that the banks would be pierced, because the severe fail-proof restrictions would make it impossible for them to commingle their business affairs with other affiliates. Banks would be exposed to only minimal risks of adverse transactions because they could not lend to affiliates and

could only purchase risk-free assets from affiliates. Also, banks would not be threatened by a loss of market confidence when bank holding company affiliates failed. This is because depositors would know that the banks are risk free and their deposits are fully insured; banks could withstand a bank run due to short-maturity of their assets; banks have access to the lender of last resort facility; and, banks have a large portfolio of acceptable collateral. Such a proposal would minimize the amount of regulation of the banking system and at the same time promote competitive equality.

On the other hand, there are disadvantages concerning this proposal. First, banks would be required to hold only a small portion of existing assets and thus would have to sell most assets in open markets or sell them to bank holding company affiliates. Such practices may affect prices of assets adversely, giving rise to capital losses on banks. Second, it may be necessary to relax the requirement that banks should hold virtually risk-free assets in order to maintain banks' advantage.

The Fail-Proof Parent Proposal

A third proposal on the BHC model is presented by Tally (1991). This proposal would require banks to transfer relatively risky activities, but not all activities involving risk, from banks to bank holding companies. The transferred activities would be conducted only by nonbank affiliates, and not by bank holding companies, in order to ensure that bank holding companies would not fail as the result of large operating losses. BHC would be prohibited from issuing debt. Therefore, bank holding companies would not fail as a result of not being able to service their debt obligations. Banks would be prohibited from engaging in most types of transactions with bank holding company affiliates, such as lending or the purchase of assets. Only transactions that are essential, such as paying dividends, and making tax payments to the parent, would be permitted. Bank holding companies would be subject to oversight by bank supervisors to prevent any abuse of the banks.

Nonbank affiliates would have to find their own sources of funding. However, BHC would be able to issue stocks and use dividend incomes to fund these affiliates. Also, bank holding companies could set up a financing subsidiary that could raise funds for the nonbank affiliates. This proposal would allow the centralization of funding for the entire nonbank part of the bank holding company organizations, thereby exploiting any economies of scale that might be involved. Nonbanks would not be regulated and supervised by a bank regulator, but should be subject to market discipline.

Provided that it makes a difference where risky activities are conducted in the bank holding company structure and that it is better for these activities to be conducted in nonbank subsidiaries of the parent than in the parent company itself, this proposal would generate less adverse effect on market psychology and a less likely loss of confidence.

VII. Conclusion

This paper has indicated that banks can play a crucial role in fostering the corporate bond market given their already dominant positions in Asian financial markets. Furthermore, banks already have inside information about their borrowers and possess expertise in lending businesses, including producing inside information and monitoring clients. Moreover, banks can exploit economies of scope by using these information and expertise as well as their branch networks and staff. Further, banks' role in providing liquidity functions complements the development of corporate bond markets since they facilitate securities transactions. Thus, these comparatively advantageous positions may enable banks to underwrite securities at lower costs than independent investment firms, promoting firms' investment. At the same time, banks that engage in nonbanking businesses are more encouraged to collect and process inside information about their clients and monitor their performance, since longer-term relationships can be formed through the life cycle of the clients and thereby banks' implicit rents can be maintained. This also enables banks to maintain profitability by increasing income from nonbanking services, thus limiting banks' excessive risk taking behavior.

This situation is called the "intermediate financial structure" since it lies between an economy where banks are dominant financial institutions and provide mainly traditional banking services and an economy where numerous firms have direct access to capital markets in addition to bank loans. In this intermediate financial structure, bank loans are substitute for premature corporate bonds and yet banks play a crucial role in the corporate bond market as investors, issuers, underwriters, and guarantors. This differs from the financial structure that is present in the United States where bank loans are substituted for mature corporate bonds and there are numerous, diversified investors and issuers.

There are various nonbanking businesses that banks can directly perform. However, the scope of businesses that are conducted directly by banks should be carefully examined particularly in Asian developing countries. For example, family businesses are dominant forms

of enterprises and commercial banks are often owned by them under the family-controlled conglomerates. This generates a divergence between cash-flow rights and control rights, increasing connected lending and lowering banks' incentives to improve internal risk management skills. Thus, it is crucial to make a clear separation between management and ownership and if this is difficult to implement in the short term, it may be necessary to limit ownerships of banks by family business conglomerates for the time being.

Moreover, it may be desirable for banks to conduct nonbanking services, particularly underwriting, dealing and proprietary trading, and derivatives activities, either in their own subsidiaries or subsidiaries of BHC. This is because new problems, such as conflicts of interest, slower pace of financial innovation, transmission of risks, and concentration of power, may emerge when banks enter into nonbanking services. These potential problems can be dealt with by setting differential capital requirements or adopting the trading book approach in industrial countries, where sophisticated informational, legal, and judiciary infrastructures are established, and prudential regulations and supervisions are implemented with capable and skillful staff. However, in Asian countries, legal separateness may be necessary to strengthen their prudential regulations for the time being until adequate informational, legal, and judiciary infrastructures are established.

Banks that engage in nonbanking businesses can exploit economies of scope and, to a lesser extent, economies of scale. Since the size becomes an important issue, this may promote conglomeration and merges, as already observed in industrial countries. The regulator should be careful that such a movement would not promote a concentration of power in the banking sector and thus discourage a further development of capital markets. At the same time, the regulator should be cautious that small banks would operate efficiently and maintain profitability without increasing excessively risk-taking lending businesses. Since there are relatively a large number of SMEs in Asian developing countries and thus banks continue to provide relationship lending to them, it is important to ensure the solvency of small banks.

Furthermore, the insurance and pension industries are underdeveloped in Asian developing countries, reflecting the low level of income per capita and asset accumulation. This explains why investor base is small. Thus, regulators should be careful not to increase concentration of power in the banking sector and at the same time, should adopt policies to foster these industries over time through promoting deregulation. The widening of the investor base is important since these potential institutional investors are likely to hold longer-term securities given their long-term liabilities. By contrast, banks tend to hold shorter-term securities unless their liabilities

can be lengthened by increasing recourse to the issuance of bank debenture. In this sense, establishing long-term credit banks can be desirable to facilitate transformation of short-term bank deposits to long-term financing.

The regulator should make tremendous efforts to improve the soundness of the banking sector. This is even more important in recent years since large, profitable firms are able to issue securities at low costs and thus reduce dependence on banks loans, leaving smaller, less profitable firms to the banking system. Consequently, banks may face a higher default probability, necessitating them to improve internal risk management skills. In order to promote banks' incentives to collect and process information and monitor their clients, the government should not intervene in banks' decisions over lending. Furthermore, the regulator should terminate the "too-big-to-fail" policy. In the meanwhile, the prudential regulations and supervision should be improved substantially by improving skills and knowledge of staff and making the regulatory regime flexible and responsive to changes in the financial environment. Until the bank regulation is improved substantially and independence of the bank regulatory authority is achieved so that confidence is achieved, an umbrella approach could be a desirable approach for Asian developing countries.

Appendix 1. Main Bank System in Japan

The main bank is the largest lending bank to a firm that not only maintains a relatively high share of equity holding on its own, but also exercise effective influence on corporate governance. The main bank effectively plays the role of syndication arranger or trustee for raising funds. It explicitly commits the largest share of loans to corporate clients in order to signal its positive attitude to other participating lenders. In addition to equity holding relationships, the main bank can be identified generally through five interlocking elements of qualification (Sunumura, 1994). First, the bank's commitment to undertake restructuring tasks or to act as lender of last resort is formally or tacitly confirmed. Second, the borrower accepts any bank member to its boards of auditors. Third, the length of time business networking and other overall benefits have arisen from the long-term relationship. Fourth, the main bank is capable of arranging sufficient funds for the borrowers' bank accounts in cost effective ways, and is able to offer lucrative deals and advice on diversification of corporate treasury operations. Fifth, the main bank provides widespread and in-depth intelligence services, such as research data on money markets, corporate credit appraisal and technology.

Where all these elements are present, and both bank and firm are satisfied with each other, the position of main bank may be firm on a long-term basis. Main banks classify client firms based on their credit worthiness to monitor performance and to review or determine the extent of the bank's involvement or credit commitments. Main banks monitored the behavior and performance of borrowing firms on behalf of other members of the loan syndication. When their borrowers were in difficulty, they worked out rescue plans, involved rescheduling of loans and reduction of interest payments, and restructured the management. Main bank system and the close relationship between banks and industry were part of the policies to promote industrialization and growth. Bank of Japan had considerable leverage in discouraging banks from lending for speculative purposes such as real estate development or for lending to the household sector for housing finance or consumer credit.

Main banks attempted to build quality portfolios and raise profitability in the long run by increasing the number of bank accounts and securing repeated transactions. Furthermore, they diversified their trading into varieties of new financial instruments with existing growing firms and expanded dealings (arbitrage) in markets on their own account. They explored new firms in growing industries to foster prospective SMEs and reappraised the total performance and merits of maturing or matured firms. They protected the interests of their long-time clients, specifically those firms maturing or matured in their performance, often by suggesting useful merger and

acquisition deals for the client's further business development.

As firms grew bigger and more successful and financial markets were further deregulated and globalized, however, some corporate borrowers opted for diversification in their funding programs and to not rely to the same degree on main banks. While main banks served as effective agents for corporate growth in the development process, these relationships began to be threatened by competition when they did not sufficiently upgrade their managerial capacity under the deregulated global setting. The main bank function works as long as the banks possess sound banking principles, accountability in operation, high quality in service, and consistent profit making and portfolio diversification strategies. The impact of the real estate crash since 1990 on banking sector balance sheets has been substantial because of the poor management of non-bank finance companies and the slow reaction to the changes stemming from interest rate liberalization. With the progress of deregulation, securitization, globalization and computerization, financial instruments should have been diversified and made more sophisticated, and main banks should have been be able to compete in terms of rates and services on the same footing with other banks.

Appendix II. Capital Adequacy Requirement

Capital requirements are potentially useful to control risk, because when a bank has its own capital at stake it will bear some of the downside of a risky investment. This requirement is to increase the proportion of uninsured funding such as equity and subordinated debt to insured funding such as deposits. In this manner, an increase in the ratio would lower bank shareholders' incentives to take risks at the expense of the public safety net (Rojas-Suarez, 2001). Banks may have to hold an inefficiently high amount of capital to behave prudently. This would introduce direct asset restrictions or limit deposit competition. On the other hand, capital requirements may increase risk-taking behavior rather than contain it. They may increase credit rationing with a negative impact on economic growth, and in turn may induce borrowers to shift to capital markets and in the process impair capital allocation; increase the cost of capital.

The Basle Capital Accord was established in 1988 among the bank supervisory agencies of the G10 nations. The accord states that a bank must hold equity capital that is equal to at least a fixed percent of its risk-weighted credit exposures as well as equity capital to cover market risks in the bank trading account. Furthermore, when poor bank loan performance causes banks' equity capital to fall below this minimum requirement, shareholders can retain control provided that they recapitalize the banks to meet the minimum capital ratio. If the shareholders fail to do so, a bank regulatory authority is required to sell or liquidate the bank.

This accord is an attempt by bank regulatory authorities in the G10 nations to establish standards of transparency for equity capital that can be used in making judgments on various loan applications. In this way, the accord also helps limit the discretion taken by regulators when the soundness of banks is evaluated. Capital adequacy requirements require a bank to have own capital of at least 8% of a weighted sum of risky assets and off-balance activities.

Nevertheless, the accord has a few defects since it concentrates its focus only on issues related to capital measurement and the setting of the minimum capital adequacy ratio (Dale, 1996). First, it is assumed that member countries have compatible institutional arrangements. Second, the accord does not indicate standards or guidelines on how banks should identify, measure, monitor and control various risks. Third, the accord gives no guidance as to how regulators should address failures of bank shareholders to meet agreed minimum capital adequacy requirements. Fourth, no guidelines are given to the circumstances in which a host country regulator may close a branch office of a foreign bank. Fifth, there is no formal enforcement mechanism. As a result, such an incomplete agreement gives room for considerable discretion to

each country's supervisory authority. Sixth, the accord reflects a rigid view of the capital ratio. A more flexible approach is needed when evaluating the market risk (Dale, 1996). Sixth, current standards are not based on precise measures of credit risk, but on proxies for it in the form of broad categories of bank assets. This explains why banks regularly request other (lower) risk weightings of specific instruments. To obtain more precise weightings, the Basle Committee should be willing to consider less arbitrary ways to determine credit risks. However, it is unrealistic to expect that internationally-applicable risk weightings can be established that accurately reflect banks' risks at all times and under all conditions (Swaan, 1998).

With respect to empirical studies, based on data for more than 100 countries on bank regulations and supervisory practices, Capiro and Levine (2000) have found that official supervisory power and tighter capital regulations did not mitigate the negative impact of generous deposit insurance on bank fragility. Furthermore, stringent capital regulations are not very closely linked with bank performance and stability. There is no robust relationship between capital regulatory restrictiveness and bank development, net interest margins, overhead costs, or nonperforming loans.

One of the reasons for the low effectiveness of capital requirements is closely associated with inadequate implementation of stringent accounting and prudential supervisory standards. Many countries do not provide adequate classification procedures for loan risk, resulting in underprovisioning of loans (Rojas-Suarez and Wisbrod, 1997). Another problem is that reported balance sheets are not sufficiently detailed with regard to trade flows of funds in the interbank market. In many cases, asset classification procedures often lead to large categories for diverse assets or other assets. Capital account reconciliation statements are usually not provided, making it difficult for supervisors to trace the sources of increases in bank capital from one reporting year to another year. These factors limit the usefulness of capital requirements not only as measures to evaluate the soundness of banks, but also to reduce bank risk.

Appendix III. Foreign Entry

The benefits of foreign bank entry for the domestic economy are better resource allocation and higher efficiency. Levine (1996) has stressed that foreign banks may improve the quality and availability of financial services in the domestic financial market by increasing bank competition, promoting the importation of advanced banking skills and technology, improving prudential supervision and regulations, and enhancing a country's access to international capital. Bhattacharaya (1993) has found that foreign bank entry helped foreign capital become more accessible to domestic firms in Pakistan, Republic of Korea, and Turkey. By contrast, Terrell (1986) has documented that countries with foreign bank entry experienced lower gross interest margins, lower pre-tax profits, and lower operating costs for the period of 1976-1977 for 14 developed countries.

Since this study does not control for influences on domestic banking, Claessens, Demirguc-Kunt, and Huizinga (1998) have taken into account this shortage. Based on the data of 80 countries during 1988-1995, they have found that foreign banks tend to have higher interest margins, profitability, and tax payments than domestic banks in developing countries, while the opposite is true in developed countries. They have provided empirical evidence that a larger foreign ownership share of banks reduced the profitability and the overall expenses of domestically owned banks. These results suggest that foreign bank entry improves the functioning of domestic banking markets, with positive welfare implications for bank customers.

While the overall benefits of foreign entry on economic growth have been widely recognized, the issue of how fast to open up their domestic markets remains unsettled. Experiences show that it is vital to strengthen the supporting institutional framework including prudential regulations and supervision, screening the entry of new financial firms, and using the market in disciplining financial institutions (Claessens and Glaessner, 1998). Internationalization is related to domestic deregulation, as it influences the quality and competitiveness of domestic financial services providers.³⁰ Furthermore, internationalization relates to the degree of capital account liberalization, as it determines the potential gains and benefits from access to foreign financial services that are provided in domestic markets rather than those provided and obtained abroad,

³⁰ The relationship between internationalization and domestic deregulation is complicated. For example, a country might deregulate its financial system but still keep its financial markets closed to foreign competition (Claessens and Glaessner, 1998). On the other hand, a country might overregulate its domestic markets for financial services, but freely allow foreign financial firms to open local branches and compete with domestic banks within that system of regulation. The causality is not uniform.

but not in an obvious way.³¹ Based on the review of country experiences, Claessens and Glaessner (1998) have found that internationalization can help in the process of building more robust and efficient financial systems by introducing international practices and standards, by improving the quality, efficiency, and breadth of financial services, and by allowing more stable sources of funds. This takes place regardless of the state of development of the domestic financial system and the openness of the capital account.

In particular, data on Asia (India, Indonesia, Hong Kong, China, Malaysia, Philippines, Republic of Korea, Singapore, Thailand) show that the limited openness to date has been costly in terms of slower institutional development, greater fragility and higher costs of financial services (Claessens and Glaessner, 1998). For banking services in the Asian countries, they have found a clear negative relationship between net margins and de-facto or de-jure openness to foreign banks. At the same time, a positive relationship was found between profitability and openness. The more closed Asian banking system also appears less institutionally developed and more fragile. They have concluded that Asian countries will not benefit to the greatest degree possible from financial services liberalization if their domestic financial system remains heavily restricted by regulations that inhibit foreign entry, domestic competition, and the efficient provision of financial services liberalization. Extensive capital controls prevent various banks from exploring their comparative advantage and may introduce distortions and risk. Internationalization may increase risks in the presence of a poorly regulated and supervised financial domestic system, but this problem needs to be balanced by the fact that foreign banks are better capitalized and subject to stringent supervisory systems in their home countries.

³¹ The relationship between internationalization and capital account liberalization is complex. For example, when a capital account is open, equities issued in a developing country can be largely traded in New York in the form of an American Depositary Receipt, but still owned by co-nationals of the original issuer (Claessens and Glaessner, 1998). Domestic firms may use off-shore financial services, for example, by borrowing abroad and then repatriating funds in domestic currency for local use. These examples involve capital account liberalization without the entry of foreign banks.

Appendix IV. German Universal Banks

German universal banks are financial conglomerates that provide traditional lending services, underwrite securities, manage trust accounts of their customers, and hold equity and exert their control on companies through the use of proxy votes. Since commercial banks are not legally restricted from holding blocks of equity in nonfinancial firms, they can possess control rights over the firms in the form of votes. Nevertheless, such blocking practices by banks are not so pervasive in Germany, whereas those by nonbanks are extensive (Gorton and Schmid, 2000). German banks are not fully fledged financial conglomerates that combine banking, insurance, and securities as in-house departments. They conduct only their merchant banking and securities operations in house while insurance, mortgage banking and investment funds are usually supplied through affiliate companies.

Furthermore, control rights of these blockholders can be limited by voting restrictions, which sets that voting rights of shareholders can be restricted by the firm's charter to a certain maximum fraction in the firm's total voting stock, regardless of the fraction of shares owned. Typical voting rights restrictions are 5% or 10%, which constrains the power of block shareholders, including bank blockholders. In general, nonbanks tend to hold more equity than banks. Thus, if a voting restriction constrains the votes of the nonbank blockholder, say, to 10% and if the bank controls all of the proxy votes of the small shareholders, the bank could effectively control this firm. In this case, link between cash flow rights and control rights would be broken down.

Moreover, German law requires firm employees to hold voting seats on the supervisory boards of large firms. This so-called "co-determination" allows management to insulate itself to some extent from discipline imposed by shareholders, since large shareholders cannot appoint all the directors on the board. Thus, governance of German firms does not depend solely on the possession of control rights in the form of votes attached to equity shares. Nevertheless, since employees are regarded as residual claimants by virtue of their investment of firm-specific human capital, they are likely to govern management in the interest of shareholders. On the other hand, if human capital is not diversifiable, risk-averse employees' objectives can differ from those of shareholders. Gorton and Schmid (1998) have found that with employees on a firm's board, firm resources are directed to less productive uses, decreasing the return on assets, the return on equity and the market-to-book ratio of equity.

On the other hand, German shares are bearer securities and individual stockholders keep

their shares at their bank, giving rise to proxy voting. Proxy voting rights tend to concentrate in the largest banks due to that these banks have an extensive network of branches. Also, banks' proxy voting of dispersed shareholders' votes is not bound by the voting rights restriction, thereby potentially enabling banks to become more powerful than nonbank shareholders. German banks have the right to exercise proxy votes for these shareholders through agreement given in writing and lasting for 15 months. Prior to the annual meeting, banks inform the shareholders they represent as to how they will vote at the meeting. If shareholders disagree with the banks, they can indicate how they want to vote by informing the bank by mail and in such a case, banks must adhere to these instructions. In spite of potential benefits given by proxy votes, banks do not actively compete for proxy votes. From banks' perspective, proxy voting is regarded as a passive byproduct of retail brokerage.

Thus, the structure of German universal banks featured with proxy voting and codetermination suggests that in reality, corporate governance in Germany is different from the system described by a traditional theory, which states that corporate governance is based on the principle of one-share-one-vote, linking claims on cash flows with control rights (La Porta *et. al*, 1999). Furthermore, it is pointed out that disclosure requirements in Germany do not exist to the same extent as Anglo-American stock-marked based economies (Gorton and Schmid, 2000).

There are two conflicting views on German banks. On the positive view, German universal banks are large, active, informed investors that improve the performance of firms to the extent that they hold equity and have voting power from casting the votes of small investors in proxy and thus monitor firms on behalf of other shareholders that are dispersed and passive. Banks as long-term investors oversee firms' investments and organize internal capital markets, rather than as myopic investors [Porter (1992), Grundfest (1990)]. Bank relationships mitigate the costs of external financing and actively monitor management.

By contrast, the negative view is that German universal banks are harmful. This is because conflicts of interest are present when the banks are large equity holders in the firms, are in control of a large number of proxy votes, control firms' access to external capital markets, and have loans outstanding to the firms. The concentration of power in banks would allow them to run firms in their own interests. The power to exercise corporate control is not only a fraction of the allocation of formal control rights in the form of votes. Banks can have superior power and information that they use to their advantage even if their control rights are low in number and there is a large nonbank blockholder, since banks can have superior information by virtue of the lending relationship (Elsas and Krahn, 1998). Also, banks can gain power because they guard

access to capital markets. Furthermore, banks can refuse to allow cash to be paid out of firms in order to maintain hidden reserves. Banks may force a value-reducing merger between distressed and viable firms, both of which they control.

Based on cross-section data of large public limited companies in 1975 and 1986, Gorton and Schmid (2000) have shown that equity ownership by banks as a group gives them control over far less than 25% of the votes at annual meetings. This suggests that for largest German firms, bank control rights are low and their control does not appear to depend on the sheer number of votes. Indeed, a large fraction of public companies have a single nonbank shareholder who holds at least 25% of the stock, indicating that nonbank blockholders are much more pervasive than bank blockholders.

Gorton and Schmid (2000) have shown that banks' control right positively affect firms' performance. An increase in the banks' control rights from equity ownership by 1 percentage point improves the market-to-book ratio of the firm by 0.23% to 0.41% depending on sample. It was also found that banks proxy vote does not affect firms' performance, suggesting that no conflicts of interest exist between banks' use of proxy voting and shareholders' interests. Moreover, codetermination was found to reduce firms' performance. Finally, there was no significant difference between 1975 and 1986. Therefore, banks did not extract private value to the detriment of firms' performance and there was no evidence of conflicts of interest between banks and other shareholders. In other words, there was no evidence that banks used proxy voting to further their own private interests and that proxy voting was used at all.

Based on the results, Gorton and Schmid (2000) have stressed that the source of banks' incentives to improve the value of firms as opposed to extracting private benefits to the detriment of firm performance is closely related to banks' blockholding practices. In particular, bank blockholders, which have acquired a block of stocks from a family or as a result of distress, have an incentive to monitor the firm when the stock market is illiquid. When stock market is illiquid, bank blockholder can only sell those stocks at a large loss (Bhide, 1993). This encourages banks to maintain a close relationship with the firm and monitor them.

Furthermore, banks can be regarded as more powerful than nonbank blockholders because they are able to improve firms' performance beyond what nonbank blockholders can achieve. Banks have better information and superior expertise, relative to other blockholders. Also, banks have credible threat of cutting off external finance since firms have no outside option for financing and thus must rely on their banks. Since banks also have to keep relationships with

firms in the absence of liquid equity markets, the absence of a deep stock market forces banks and firms into a symbiotic relationship that can substitute for disciplining via takeovers (Gorton and Schmid, 2000). To the extent that banks own cash-flow rights, they have a financial incentive to improve the performance of firms and will use their power to this end. Therefore, bank ownership of control rights and cash flow rights could be positively correlated notwithstanding that institutional features such as codetermination, voting restriction, pyramiding, cross shareholding and stocks with multiple votes may act to uncouple them.

Appendix V. Trends in EU Regulation

One of the main goals of EU regulation is placed on creating a level playing field between banks and investment firms. In this context, EU adopted two sets of Directives covering banking and securities business: the Second Banking Coordination Directive (1989) and Investment Services Directive (1993). The Second Banking Coordination Directive allows banks to engage in a wide range of financial activities throughout the EU either through branches or across borders under home country control without the need to obtain authorization from the host country. The activities permitted to banks include securities underwriting, brokerage, dealing, insurance, holding of equity of financial and nonfinancial firms, and voting shares they own and hold in trust for their customers. Banks that are authorized to engage in these securities activities in their home state are free to undertake the same range of activities in other member states, even if the host state prohibits its own banks from mixing banking and securities business. Thus, single passport applies to all services that a bank is authorized to provide in its home territory.

In this Directive, therefore, the EU adopted a broad definition of credit institutions, corresponding to the German model of universal banking. Thus, banks, investment firms and insurance firms may hold unlimited reciprocal equity participation since no limits are imposed on the formation of financial conglomerates. However, the EU sets limits on banks' holding shares in non-financial firms, with individual stakes in individual and commercial firms set at a limit of 15% of bank capital, and the sum of these participation at below 60% of the capital. The introduction of the euro is likely to encourage banks with varying degrees of functional and geographic specialization to restructure.

This regulatory framework is expected to actively promote a universal banking model throughout the EU. This is because host states are unlikely to impose a narrower range of permissible activities than that allowed for under the Second Banking Coordination Directive for fear of placing their banks at a competitive disadvantage against banks with full securities powers. At the same time, however, given the marked difference in regulatory approach between banks and investment firms, the fusion of banking and securities businesses within a universal banking regime presents regulators with considerable difficulties.

The Investment Services Directive, on the other hand, fulfils a similar function to the bank regulatory directive in providing a common framework for regulating investment firms and the securities activities of banks. This directive was also intended to extend the single passport to investment firms and thus, allow investment firms to establish branches and provide cross-border

services throughout the EU, based on home country authorization. While under the Second Banking Coordination Directive, banking is defined to embrace securities services, under the Investment Services Directive investment firms are defined as those which undertake broking, dealing, underwriting and investment management in respect of a wide range of financial instruments including derivatives.

Like banks, investment firms are subject to the “essential harmonization” necessary to secure mutual recognition of national supervisory arrangements. This means that prudential rules relating to initial authorization and capital adequacy are to be harmonized, while other aspects of regulation relating to conduct of business have for the time been left to the discretion of host authorities. The distinction between essential and non-essential harmonization appears related to “competitive” concerns rather than “systemic” concerns, since the latter can be dealt through separate accounts, self regulation, investor compensation schemes and thus, the case for official capital adequacy requirements is not persuasive from a safety and soundness point of view.

Competitive concerns are important, since the securities business, unlike banking, is undertaken on national markets and thus access is important. Concentration of markets can be achieved by enabling national authorities to confine trading in domestic securities to domestic markets, and by prohibiting nationals of other member countries from transacting in domestic securities away from a regulated market. This protects the business of domestic exchanges from cross-boarder competition. Faced by strong opposition from the United Kingdom, the EU reached a compromise in the form of an opt-out clause under which member countries may waive the regulated market requirement for professional investors. Also, the EU required all regulated securities markets to publish weighted average prices, high and low prices, and aggregate trading volumes at the start of trading and on a rolling basis throughout the trading session. This requirement is controversial, because dealer markets such as London claim that immediate disclosure of large transactions can affect prices and jeopardize the position of market-makers, damaging liquidity. Consequently, the EU decided to allow delayed reporting in the case of very large trades, illiquid securities or exceptional market conditions.

In addition to the Second Banking Coordination Directive and Investment Services Directive, the Capital Adequacy Directive (1993) provides a common framework for regulating investment firms and the securities activities of banks. The main driving force behind the harmonization provisions of Investment Services Directive and Capital Adequacy Directive may reflect the perceived need to ensure competitive equality between universal banks and nonbank investment firms. Since universal banks were to be subject to the capital adequacy rules of the banking

directives in respect of their securities business, it was thought necessary to impose similar requirements on non-bank investment firms; otherwise, the latter would enjoy the competitive advantage of operating on a narrower capital base. This level playing field argument's legitimacy depends on the proposition that the universal banking sector needs to be protected against inroads from specialist nonbank competitors.

The Capital Adequacy Directive is important only because the EU adopted the universal banking model and because it is considered necessary to establish competitive equality between banks and nonbanks. However, these Directives do not offer a simple distinction between banks and investment firms, since the definition of banking in the Second Banking Coordination Directive includes securities business undertaken both by banks and by non-bank investment firms. The regulatory interface between the two markets that results from these overlapping directives has important implications for systematic stability, competitive equality and the efficiency of markets

Furthermore, there were differences in opinions regarding capital adequacy requirements between Germany and the United Kingdom. In Germany, regulatory arrangements had been designed conservatively to safeguard the solvency of banks and thus, subordinated debt was completely excluded from the definition of regulator capital. By contrast, the United Kingdom was concerned that UK-based investment firms would be put at a competitive disadvantage against non-European rivals if such a regulatory arrangement were selected. In the United Kingdom, regulatory authorities recognized for investment firms (but not for banks) the legitimacy of sophisticated risk management techniques that minimized capital requirements and the active use of short-term subordinated debt as regulatory capital. Germany felt that allowing such things would put universal banks at a competitive disadvantage (Dale, 1996).

As a result of intense negotiations, an agreement was reached under which capital adequacy rules would be applied on a functional basis to cover certain types of risk taken on by both banks and investment firms. And, each type of institution would segregate its securities "trading book" from the rest of its business and the trading book alone would be subject to the more permissive capital adequacy rules appropriate to securities trading. In this way, a level playing field would be established between universal banks and non-bank investment firms. This trading book includes (a) proprietary positions in financial instruments held for the short term or for resale, whether for trading, arbitrage, market-making or hedging purposes; (b) exposures due to unsettled transactions, free deliveries and OTC derivatives; and (c) exposures due to repurchase agreements and securities borrowing subject to conditions designed to draw a clear distinction between these

trading activities and conventional secured lending by banks. A new class of short-term subordinated debt is now eligible for inclusion in regulatory capital and the ceiling on the amount of subordinated debt included in capital is more generous under the trading book option.

While banks and investment firms have traditionally been subject to very different regulatory regimes, the Capital Adequacy Directive attempts to square the circle by imposing functional regulation on similar activities by banks and investment firms, as defined by their trading books. It also achieves broad competitive equality between banks and investment firms. Thus, the tug of war between bank and securities regulators resulted in compromise capital requirements for the trading book in terms of (a) the definition of capital, (b) treatment of underwriting, (c) large exposure rules, and (d) position risk requirements. The requirements are much closer to the regulatory model of securities markets than banking.

Since banks must bear the risk associated with their own trading books or securities subsidiaries, however, some dilution of the solvency protection are afforded to banks. They are allowed to use their deposit base to fund securities operations either through their own balance sheets or through subsidiaries. Thus, it is possible that the moral hazard problems associated with banking will be carried over into securities markets. In other words, the deposit funding of securities business gives banks a competitive advantage over investment firms. Therefore, the trading book concept offers regulatory concessions to banks in respect of their securities activities but at the cost of diluting the solvency protection afforded the bank entity. The absence of firewalls between banks and securities operations may jeopardize the interests of bank depositors (or deposit insurance funds) while creating moral hazard (Dale, 1996).

Furthermore, the capital requirements applicable to bank loans are much higher than those to debt securities of equivalent default risk and maturity held on the trading book. The Capital Adequacy Directive thus gives an incentive for banks to shift their business from traditional banking to securitised lending, adding impetus to the trend toward securitisation. EU capital rules also favor funding via securities markets rather than bank borrowing. For these reasons, the level playing field objective has not been achieved in the EU despite it being a main objective.

Appendix VI. History of the United States

Progress in reducing the cost of industrial finance in the United States coincided with institutional changes that increased the concentration of financial market transactions. In the 1920s, the first changes took place when bank distress caused many states to relax branching and consolidation restrictions. Consequently, an unprecedented bank consolidation wave ensued (Calomiris, 1993). Banks took an increased role in industrial lending (the origin of bank securities underwriting through affiliates) and also increasingly involved themselves in trust management. This movement was consistent with an unprecedented increase in the number of US firms participating in the market for new equity issues in the late 1920s.

However, during the Great Depression, the regulator took the view that speculative behavior by large banks and particularly their involvement in securities markets had precipitated the Depression (Calomiris and White, 1994). Subsequent institutional innovations outside and inside the banking system helped to reduce corporate finance costs (Calomiris and Raff, 1995). Beginning in the 1930s, life insurance companies became involved in financing corporations by purchasing privately placed debt (concentrated, nonpublic issues of bonds) and private placements accounted for roughly half of all securities issues in the 1940s and 1950s.

During the period of 1863-1985, branching restrictions were imposed by limiting individual banks from opening more than one office or branch. The National Banking Act of 1863 provided states the authority to restrict branching within their borders. The McFadden Act of 1927 then prohibited banks from opening branches outside their home state and forced all national banks to conform to the branching regulations in their home state. These two acts were intended to foster competition by preventing large banks from driving smaller banks out of business by opening a nearby branch. These acts, however, resulted in decreased competition and the resultant presence of inefficient small banks. The branching restrictions imposed by these acts accounted for the presence of a comparatively large number of commercial banks in the United States. Also, they stimulated the development of three financial innovations to circumvent them: BHC, nonbank financial banks (which accept deposits and make loans, but provide limited service that fall outside the legal definition of a bank as defined in the Bank Holding Act of 1956), and automated teller machines.

The Glass-Steagall Act was introduced since the involvement of banking conglomerates in the securities business with the securities market boom in the 1920s and the coincident wave of bank failures with the stock market collapse in 1929 led many to believe that securities activities

were an important cause of the banking industry's collapse. During 1923-1933, there were always more banks that offered securities through their in-house departments than through a separate unit. Also, the proportion of banks that chose to offer securities services through an in-house department was always significantly larger than that of national banks

In 1933, the Act restricted the ability of member banks to engage directly in securities activities and to affiliate with entities that were primarily engaged in such activities, as specified in Sections 16, 20, 21, 32 of the Banking Act.

Section 16 limited member banks' investment banking activities to three areas: practices to act as agents, limited purchases for their own account of certain securities as defined by Office of the Comptroller of the Currency (OCC) regulations; and dealings in some government securities. Section 20 prohibited member banks from affiliating with entities that were principally engaged in investment banking activities. Section 21 made it illegal for entities that were engaged in investment banking to accept deposits, except for those permitted by Section 16. Section 32 prohibited interlocking directorates and certain other relationships between member banks and entities that were principally engaged in investment banking. Thus, the Glass-Steagall Act permitted banks to undertake only a very limited set of securities activities in house.

Subsequently, the Bank Holding Company Act of 1956 was introduced. While it did not impose further restrictions on the permissible securities activities of banking conglomerates, it prohibited BHC from owning shares in nonbank corporations other than those engaged in approved banking-related activities.

In the 1960s, as private pensions and mutual funds developed, they took on an important role as concentrated purchasers of new public offerings of stock. These institutional investors reduced the cost of bringing equities to market (Mendelson [1967] and Calamiris and Raff [1995]). Beginning in the 1970s, regulations guiding BHC were relaxed and the laws governing pension fund investments were changed, enabling a new partnership to form between banks and institutional investors in the form of venture capital affiliates of commercial banks. Venture capital investments by bank affiliates financed themselves largely through institutional investors' equity stakes in the fund. Institutional investors hold stakes in venture capital investments in firms and then continue their involvement as purchasers of equity once firms go public.

In 1970, the Amendment to the BHC Act allowed BHC to engage in nonbanking activities other than those explicitly permitted (those closely related to banking). Specifically, it enabled

BHC to conduct through Section 20 subsidiaries some previously ineligible activities, such as those prohibited by Section 16 (including the underwriting of commercial papers, municipal revenue bonds, securities backed by mortgages and consumer receivables). However, such businesses were possible provided that these subsidiaries were not principally engaged in securities businesses. Furthermore, those subsidiaries had to meet the requirements of the Glass-Steagall Act by limiting revenue generated by ineligible activities to 5% of the subsidiaries' total revenue and imposing firewalls between them and banks that were part of the same BHC. Later, this revenue limit was increased from 5% to 25%. Over time, therefore, the set of activities prohibited by the Glass-Steagall Act was reduced with the condition that they are housed in a subsidiary of the BHC. This is why the holding company model became so important for US banks.

In the 1980s, a large number of commercial banks failed—a sharp departure from the previous 50 years. From the Great Depression to the 1970s, there were no serious banking problems. Bank failure rates were consistently low from the 1940s through the 1970s, and only in a few years did the number of failures exceed ten. This picture changed significantly during the 1980s. More than 1,100 commercial banks failed or received federal financial assistance, representing nearly 8% of all banks operating at the beginning of the decade. The 1980s was a new era of financial innovation and experimentation in debt markets. Junk bonds, leveraged buyouts, commercial paper, money market mutual funds, derivatives, and asset securitization were just a few of the financial instruments and activities that became popular. These new financial instruments and expansion by nonbank institutions created greater competition for banks and greatly expanded access to credit for certain groups. Deregulation and the removal of many product restrictions and geographic barriers in banking and other financial services also played a major role in driving the credit boom and collapse of the 1980s.

In response to severe banking distress throughout the country in the 1980s, federal and state laws restricting bank consolidation were relaxed, prompting a second wave of bank consolidation. In the latter half of the decade, the regulator began to relax restrictions on the underwriting of corporate debt and equity by bank holding company affiliates or subsidiaries (concern for the competitive viability of US banks and with the approval of the courts). In 1984, the Federal Deposit Insurance Corporation (FDIC) allowed banks it oversaw, namely insured nonmember banks, to offer securities services, including underwriting and dealing in corporate securities, through their subsidiaries. These subsidiaries had to be separated from the parent banks and the transactions with the banks would be subject to some restrictions. In 1987, FDIC eased the operational separation between banks and securities subsidiary. Thus, a combination of

macroeconomic distress, international competitive pressure and the creative invention of new intermediaries helped the US financial system to overcome the regulatory mandate of financial fragmentation in recent decades.

Whalen (1997) has pointed out that the typical degree of involvement of holding companies in nonbank activities continues to be relatively low. In 1993, for example, nonbank assets comprised only 8% of consolidated bank holding companies assets. Only a small number of large companies accounted for a large proportion of overall nonbank activity. In 1988, the ten largest holding companies accounted for almost two-third of total net nonbank assets. And most firms involved limited the type of nonbank activities they were involved in.

In general, the average aggregate profitability of nonbank subsidiaries of BHC has been roughly the same as that of their bank subsidiaries. Recently, however, the aggregate profitability of the nonbank activities of BHC has exceeded that of their bank subsidiaries. Average returns over time differ depending on the type of nonbanking activity. Normally, the returns of securities activities are more volatile than those in banking, but they are higher as well. Some studies also have found evidence that based on the experience of BHC in nonbank lines of business, performance is country-specific and not uniform and this may be due to differences in management quality.

In the 1990s, the banking industry recovered slowly from the problems of the 1980s. Initially, banks faced the 1990-1991 recession and a continued collapse in the overbuilt real estate market. Another early stumbling block was the “credit crunch,” during which loan demand fell and banks became more cautious in an attempt to improve credit quality. From 1990 to 1993, 407 commercial banks failed. Since 1994, the banking industry’s performance has rebounded and has climbed to remarkable heights. Only 31 commercial banks failed from the beginning of 1994 through the third quarter of 1999. For most of this period, bank profitability has been at or near record levels, while credit problems have been minimal.

In 1994, the Riegle-Neal Interstate Banking and Branching Efficiency Act was introduced reflecting recognition of a movement underway by states since 1985 to circumvent branching restrictions by various means. The act overturned the McFadden Act's prohibition of interstate banking and established the basis for a true nationwide banking system. In doing so, it increased substantially the benefits of bank consolidation for the banking industry. In recent years, domestic commercial banks have increasingly opened branches abroad. This internationalization of the commercial banking industry can be explained by three basic factors: First, the rapid

growth in international trade and multinational corporations has required commercial banks to become increasingly global in their orientation. Second, by branching abroad, U.S. commercial banks have been able to pursue activities that were prohibited in the U.S. under the Glass-Steagall Act, such as investment banking and insurance activities. Third, by branching abroad, commercial banks are now able to participate more directly and profitably in the Eurodollar market, i.e., the market for dollar-denominated deposits held in foreign countries.

In 1999, a further relaxation of the Glass-Steagall Act was implemented by the Gramm-Leach-Bliley Act with respect to a separation of commercial banking and securities activities. Specifically, this relaxation eased the way for banks and nonbanking firms to consolidate in some fashion to take advantage of the synergies and cost advantages perceived in such combinations.

Table 1. Role of the Banking Sector in Asia

Banks as:	Thailand	Indonesia	Korea	Malaysia
Issuers	X	X	X	
Underwriters	X			X
Investors	X	X	X	X
Guarantors		X	X <i>(before the crisis)</i>	X <i>(before the crisis)</i>

*The shaded area refers to cases where the banking sector plays a crucial role.

Table 2.1.a Korea¹, Investors of Official Bonds (as a percent of total)²

	Before Crisis 1995-1996 Average	1997	After Crisis 1998-1999 Average
Banks	23.4	28.7	38.55
Bank-Trusts	31.4	13.6	19.65
Othesr	45.1	57.8	41.8
Total	100.0	100.0	100.0
Total (100 bn. won)	241	285	514

1/ Treasury Bonds, Foreign Exchange Stabilization Fund, Grain Securities, National Housing Bonds, Treasury Bills

2/ Data refers to outstanding official bonds, stock data

Source: Shin (2001), Table 10.

Table 2.1.b Malaysia¹, Investors of Official Bonds (as a percent of total)²

	Before Crisis 1995-1996 average	1997	After Crisis 1997-2000 average
General Government	0.7	0.6	0.2
EPF	59.2	57.5	64.9
SOCSSO	2.7	2.4	2.2
Insurance Companies	8.0	7.9	7.5
Bank Negara Malaysia	0.2	0.2	0.1
Banking Institutions	15.2	19.1	16.9
National Savings Bank	3.2	2.1	1.3
Foreign Holders	2.9	2.6	0.5
Others	8.0	7.5	6.3
Total	100.0	100.0	100.0
Total (rm mn)	65,815	66,262	80,878

1/ Malaysian Government Securities

2/ Data refers to outstanding official bonds, stock data

Source: Hamid and Abidin (2001), Table 11.

Table 2.1.c Thailand¹, Investors of Official Bonds (as a percent of total)²

	Before Crisis 1995-1996 average	1997	After Crisis 1997-2000 average
Bank of Thailand & FIDF	11.3	25.9	20.4
Commercial Banks	64.3	54.9	40.4
Government Savings Bank	0.1	0	13.7
Other Financial Institutions	20.5	14.8	9.9
Insurance Companies	0	0	4.4
Others ³	3.7	4.3	11.2
Total	100.0	100.0	100.0
Total (baht bn.)	31	14	11

1/ Government bonds, including Loan for FIDF and Loan for financial sector restructuring.

2/ Data refers to outstanding official bonds, stock data

3/ institutional investors, mutual funds, provident funds

Source: Jantaraprapavech (2001), Table 13.

Table 2.1.d Indonesia, Investors of Official Bonds (as a percent of total)¹

As of March 2001	bn Pps	%
Private National Banks	28,612	62.2
Foreign Banks	5,723	12.4
Securities Companies	2,519	5.5
Mutual Funds	100	0.2
Insurance	499	1.1
Pension Funds	66	0.1
Private Companies	155	0.3
Other	8,328	18.1
Total	45,993	100.0

1/ Data refers to outstanding official bonds, stock data

Source: Shidiq and Suprodjo (2001), Table 10.

Table 2.2.a Korea, Corporate Bonds Outstanding¹

	Before Crisis 1995-1996 Average	1997	After Crisis 1998-1999 Average
Financial	91.6	89.7	94.3
Government	2.3	1.6	3.1
Corporate	4.4	5.6	1.55
Private	1.6	2.9	0.9
Foreign	-	0.2	0.1
Total	100.0	100.0	100.0
Total (billion won)	1,001	1,505	2,441

1/ Data were obtained from the flow of funds accounts (flow) and includes privately placed bonds, ABS and certain public bonds such as corporate bonds

Source: Shin (2001), Table 18.

Table 2.2.b Malaysia, Investors of Corporate Bonds¹ (as a percent of total)

November 2000	RM (million)	%
Commercial Banks	16,911	17.2
Financial Companies	2,337	2.4
Merchant Banks	3,389	3.5
Discount Houses	2,016	2.1
All Financial Institutions	24,652	25.1
Foreign Holders	1,426	1.5
Others*	72,115	73.4
Total	98,192	.0

1/Data refers to outstanding corporate bonds excluding short-term and medium-term papers (stock data)

2/Others include major bond holders i.e. Employee Provident Fund (EPF) and insurance companies

Source: Hamid and Abidin (2001), Table 28.

Table 2.2.c Thailand, Investors of Corporate Bonds (as a percent of total)

	1995	1999
Institutional Investors & High-Networth Investors	96.0	99.6
Domestic Investors	30.0	91.1
Foreign Investors ²	65.0	8.5
Retail Investors	4.0	0.4
Domestic Investors	2.5	0.4
Foreign Investors	1.5	0.0
Total Value of New Issues	100.0	100.0
Total Value of New Issues (baht mn.)	66,066	315,858

1/ Data refers to new corporate bond offerings (flow data)

2/ Estimate by author.

Source: Jantaraprapavech (2001), Table 25.

Table 2.2.d Indonesia, Investors of Corporate Bonds¹

	Before Crisis 1995-1996 Average	1997	After Crisis 1998-2000 Average
Insurance	10.1	7.7	8.4
Pension Funds	12.7	9.2	11.5
Mutual Funds	14.0	16.3	12.6
Banking, etc.	63.2	66.8	67.4
Total	100.0	100.0	100.0
Total	4,285	12,540	14,132

1/ Data refers to outstanding corporate bonds listed at the stock exchange (stock data)

Source: Shidiq and Suprodjo (2001), Table 14.

Table 3.a Korea, Issuers of Corporate Bonds¹ (as a percent of total)

	Before Crisis 1995-1996 Average	1997	After Crisis 1998-1999 Average
Manufacturing	71.5	72.4	56.3
Construction	13.1	10.5	7.5
Wholesale & retail trade	6.5	9.9	16.7
Financial intermediation	5.9	2.1	7
Others	3.2	4.9	12.6
Total	100.0	100.0	100.0
Total (billion won)	26,742	34,322	40,529

1/ Data refers to the newly issued bonds (flow data)

Source: Shin (2001), Table 15.

Table 3.b Malaysia, Issuers of Corporate Bonds¹ (as a percent of total)

Sectors	1995-1996 average	1997	1998-2000 average
Agriculture, Forestry and Fishing	0.9	1.5	0.1
Mining and Quarrying	-	-	-
Manufacturing	17.9	25.0	4.9
Construction	20.7	14.3	30.2
Electricity, Gas and Water	12.4	15.5	8.6
Transport, Storage and Communications	24.8	15.7	11.0
Finance, Insurance, Real Estate and Business Services	8.1	27.2	37.3
Government and Other Services	1.9	-	3.1
Wholesale, Retail Trade, Hotels and Restaurants	13.3	0.8	4.9
Total	100.0	100.0	100.0
Total (rm mn.)	10,792	14,428	15,419

1/ Data refers to new issues of listed and non-listed PDS, excluding Cagamas Bonds (flow data)

Source: Hamid and Abidin, Table 25.

Table 3.c Thailand, Issuers of Corporate Bonds¹ (as a percent of total)

	Before Crisis 1995-1996 Average	1997	After Crisis 1998-2000 Average
Banking	30.7	-	48.8
Building & Furnishing Materials	6.4	-	16.9
Commerce	20.0	11.0	1.3
Communication	15.0	15.9	9.0
Finance & Securities	5.0	-	3.1
Leasing	-	48.8	4.7
Others	22.9	24.3	16.2
Total	100	100	100
Total (billion bahts.)	93,812	35,710	159,241

1/ Data refers to new corporate bond offerings (flow data)

Source: Jantaraprapavech (2001), Table 24.

Table 3.d Indonesia, Outstanding Corporate Bonds¹ (as a percent of total)

	1996	1997	1998-2000 average
Property	26.5	28.6	25.0
Wood-based and Agro Industries	9.3	9.2	13.2
Banking	27.3	19.3	19.5
Consumer Goods	-	2.4	6.3
Infrastructure	-	2.2	10.8
Financial	4.7	12.4	11.1
Others	32.2	26.0	14.1
Total	100.0	100.0	100.0
Total (rp bn.)	4,285	12,540	14,132

1/ Data refers to outstanding corporate bonds listed at the stock exchange (stock data)

Source: Shidiq and Suprodjo (2001), Table 12.

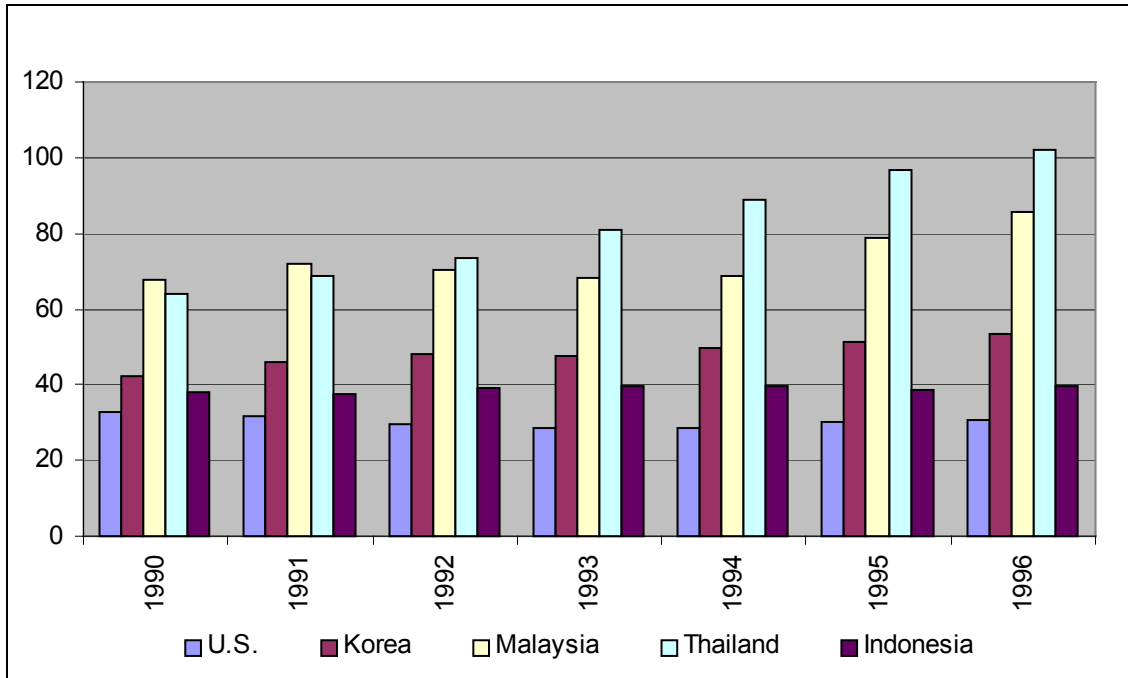
Table 4. Guarantors of Corporate Bonds

	Before Crisis	After Crisis
Korea	Guaranteed Funds, Surety Companies, Banks, Securities Companies, Merchant Banking Corporations	None
Malaysia	Government, Banking Institutions, Top Credit-rated Corporations	None
Thailand	None	Parent Companies, Related Companies
Indonesia	Banking Institutions, Affiliated Firms, Parent Firms	Banking Institutions, Affiliated Firms, Parent Firms

Table 5. Underwriters of Corporate Bonds: Thailand

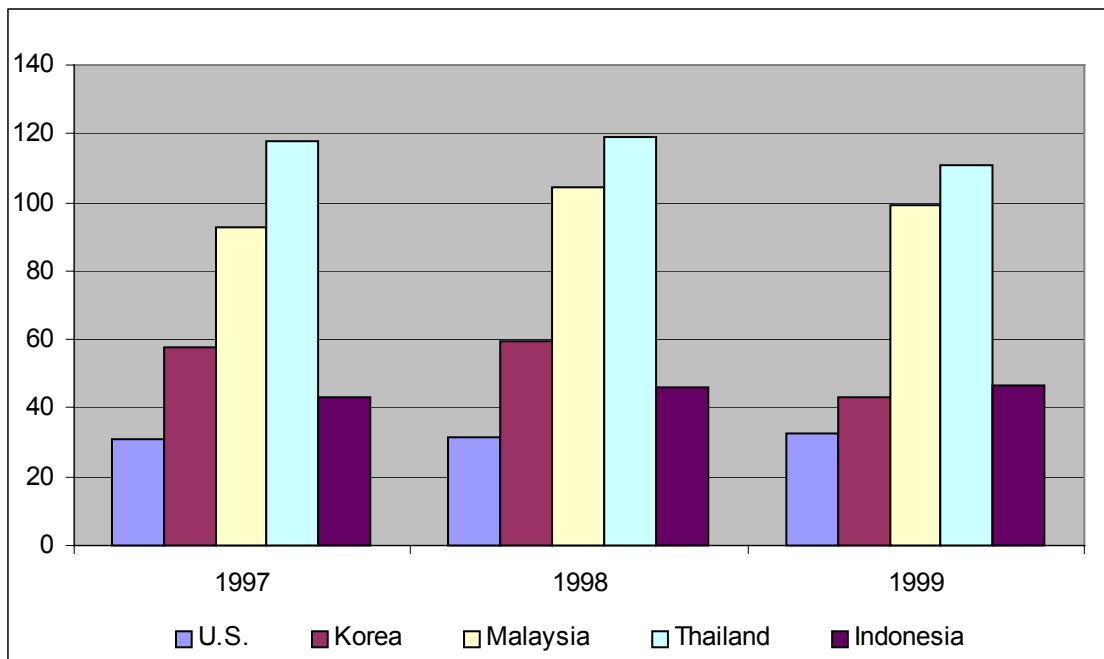
Year	Lead Underwriter	Value	No. of Issues	%
1995	Phatra Thanakit Public Co., Ltd.	3,595	2	30.9
	Thana One Finance & Securities Co., Ltd.	3,595	2	30.9
	First Bangkok City Finance Co., Ltd.	1,750	2	15.0
	Bangkok First Investment & Trust Public Co., Ltd.	500	1	4.3
	Siam Commercial Bank Plc.	500	1	4.3
	Finance and Securities as the Lead Underwriters	9,440		81.1
	Banks as the Lead Underwriters	500		4.3
2000	Siam Comercial Bank Plc.	11,955	5	21.1
	Citicorp Securities (Thailand) Ltd.	10,333	4	18.2
	Thai Military Bank Plc.	7,650	4	13.5
	ABN-AMRO Bank N.V.	6,500	3	11.4
	Jardine Fleming Thanakorn Securities Ltd.	3,650	6	6.4
	Finance and Securities as the Lead Underwriter	13,983		24.6
	Banks as the Lead Underwriter	26,105		46.0

Chart 1. Size of the Bank Loans Before the Crisis (Percent of GDP)



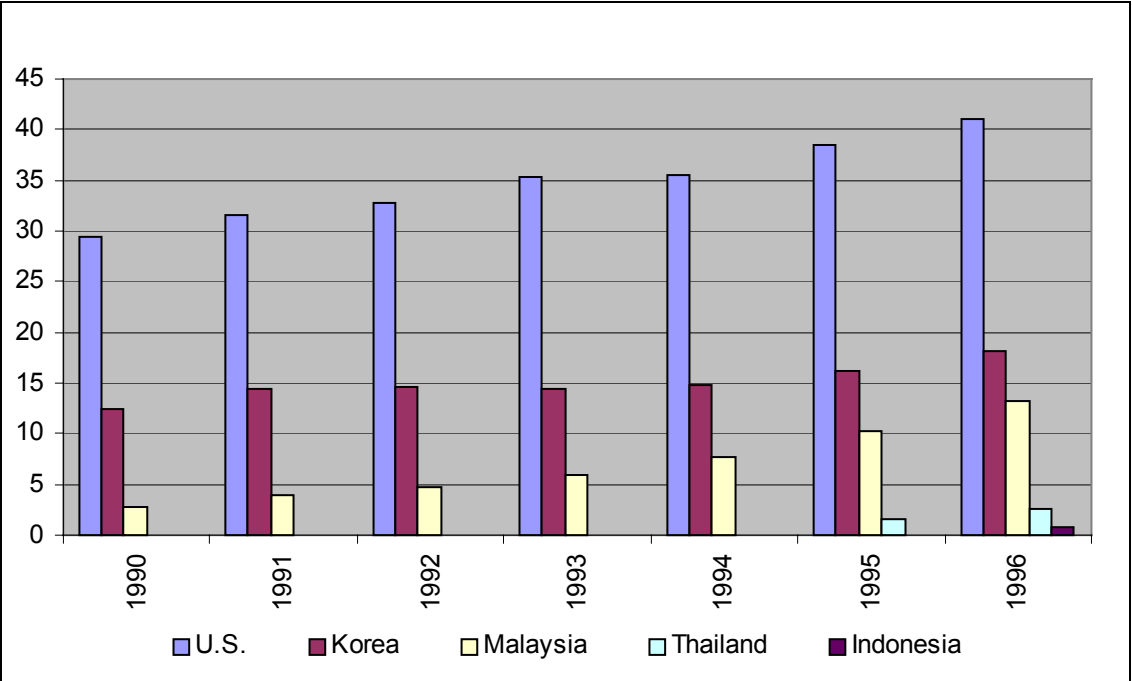
Source: DRI Asia Database, IFS April 2001.

Chart 2. Size of the Bank Loans After the Crisis (Percent of GDP)



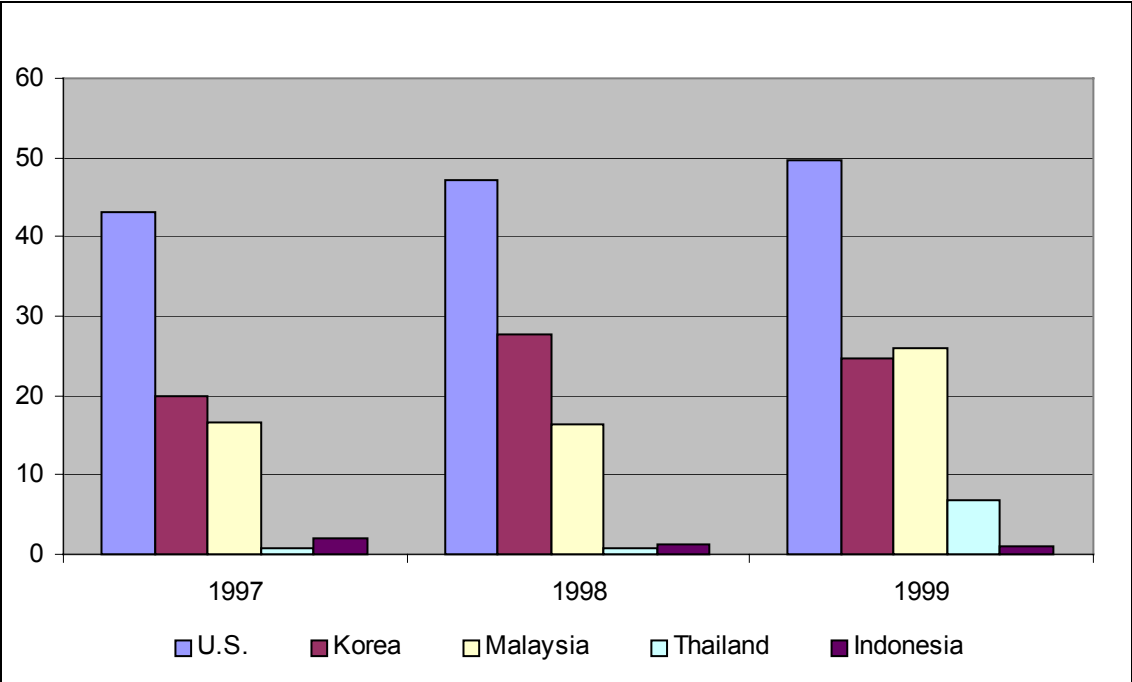
Source: DRI Asia Database, IFS April 2001.

Chart 3. Size of Outstanding Corporate Bonds Before the Crisis (Percent of GDP)



Source: Country Reports

Chart 4. Size of Outstanding Corporate Bonds After the Crisis (Percent of GDP)



Source: Country Reports

Chart 5. Intermediate Financial Structure in Asia

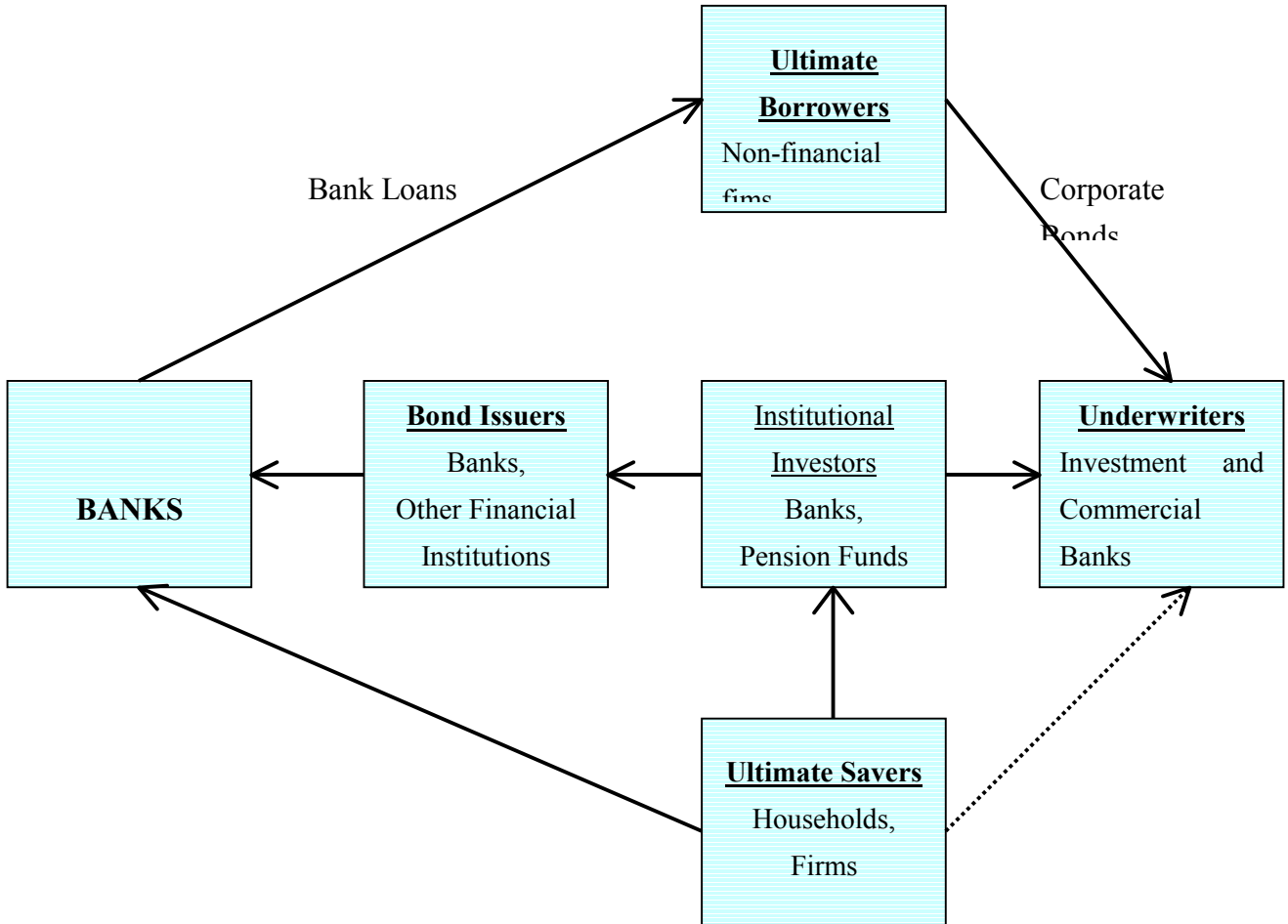
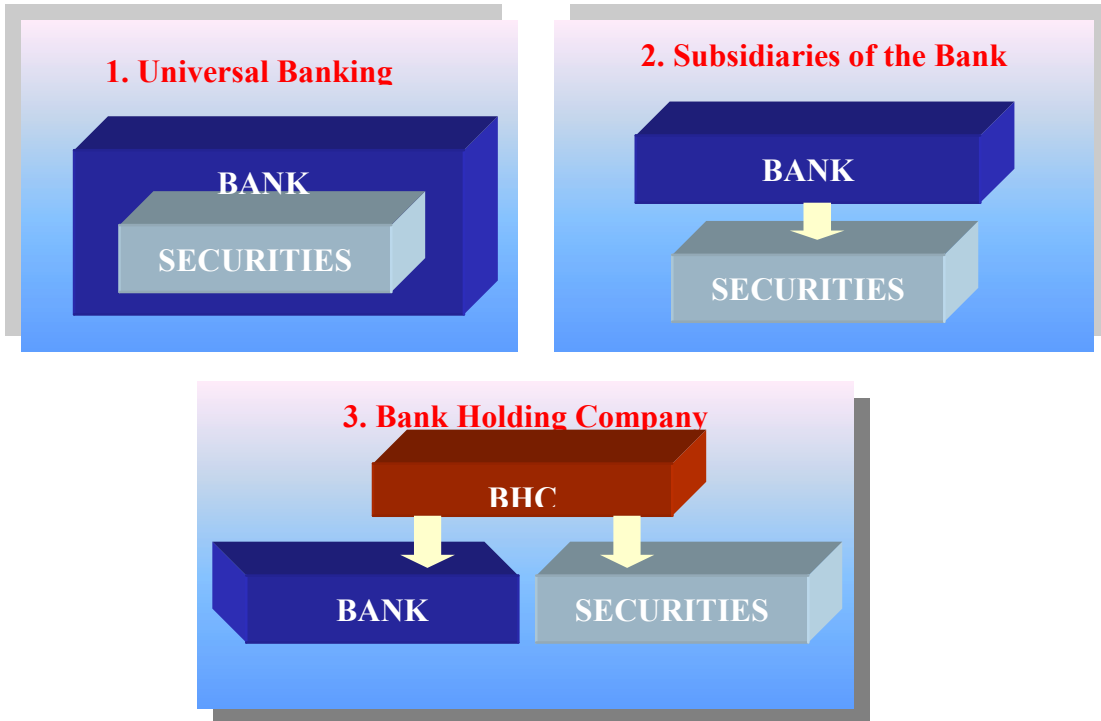


Chart 6. Organizational Forms of the Intermediate Financial Structure



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