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

by
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The Wharton School
University of Pennsylvania





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

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ADB Institute and
Keio University

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Executive Summary

Intermediate Financial Structure

1. In a number of Asian countries, commercial banks are already playing an important role in the corporate bond market as issuers, underwriters, investors, and guarantors. This reflects banks' already dominant financial positions in their financial markets, good reputation, and informational advantages. Thus, the role of banks for fostering the development of the corporate bond market and their complementary roles should be encouraged.
2. This financial landscape is referred to as the "intermediate financial structure" where bank loans are substituted for premature corporate bonds. This structure lies between a bank-dominated financial structure where banks provide traditional banking services by taking public liquid saving and financing business investment on the one hand, and a fully-fledged capital market-based financial structure where a large number of borrowers have direct access to corporate bond and there are numerous, diversified investors that are willing to diversify their asset portfolios on the other hand. In the latter case, corporate bonds substitute for bank loans extended to large, reputable corporations.
3. In the intermediate financial structure, so-called "long-term credit banks" may issue relatively medium-term bank debenture (i.e. 1-5 years). This may be desirable especially 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 for safe, liquid bank deposits. These banks may play the role of transforming short- and medium-term funds to long-term funds that were in high demand by the private sector investment projects if such medium-term bank debentures are bought by relatively wealthy individuals, small deposit-taking commercial banks, credit unions, etc. for their portfolio investment.
4. Initially, it may be desirable for the central bank to indirectly support bank debentures by using them in open market operations or qualifying them for central bank discount window, in order to increase liquidity and investors' confidence in bank debentures. This support system may make bank debentures an attractive payment reserve assets for commercial banks, which perennially depend on central bank borrowings. It should be pointed out that long-term credit banks played a crucial role in Japan in terms of shifting

the industrial structure from light to heavy industries by providing careful screening of new, venture-style industries and making bold investments based on their demand forecasts during the high growth period. However, this period coincided with the period of the low-interest policy including bank debentures and thus it may be still debatable whether long-term credit banks can be developed, at least initially, without such a financial restraint policy. Also, cofinancing with commercial banks can be used to enhance discipline on management of these banks.

Advantages

5. Banks' involvement in securities activities give rise to various advantages to the banking sector, borrowing firms, and economy. First, in recent years, banks have been increasingly experiencing a decline in their incomes from traditional banking services in the process of domestic banking sector liberalization and capital account liberalization. As a result, banks find it difficult to sustain their profitability and acquire implicit rents, which enable them to offer discretionary, repetitive, and flexible banking services to their borrowers and form long-term relationships with them. Therefore, if banks are able to maintain long-term relationships with their clients throughout the latter's life cycles—starting with bank loans and later switching to securities underwriting, banks will be encouraged to spend more resources in generating inside information about their clients and prudently monitoring their performance. Furthermore, the diversification of banks' asset portfolios helps lower banks costs of funds, which reduces the costs that banks charge their lending and underwriting customers.
6. Second, banks are able to perform securities activities more efficiently than nonbank financial institutions thanks to their good reputation and informational advantages. Good reputation improves investor confidence and thus encourages investors to purchase securities underwritten by banks. Furthermore, since banks already possess inside information about their clients through relationship lending, they do not need to spend a lot of resources in order to underwrite securities, and thus their underwriting costs can be lower than those of nonbank underwriters. This advantage is strengthened further since banks can utilize their branch networks and staff in order to conduct securities businesses. A lower underwriting cost would promote firms' investment growth and high economic growth.
7. Third, banks' engagement in securities businesses may promote mergers and

conglomeration of the banking sector, thereby improving operational efficiency. Fourth, the development of long-term credit banks may contribute to reducing a maturity mismatch and facilitating the development of domestic corporate bond markets by promoting long-term lending to the private sector.

Disadvantages

8. On the other hand, banks' engagement in securities businesses may give rise to disadvantage to the banking sector, ultimate borrowers, and investors. First, banks may end up lending to small firms if large, reputable firms increasingly raise funds through issuing securities. This tendency is more pronounced for small banks if large banks increase their lending and securities businesses with large clients. This suggests that banks face a higher default ratio on the average bank credits, strengthening the need to improve their internal risk management system. Second, financial conglomerations may crowd out small firms because it may encourage banks to shift toward megabanks through acquiring smaller, weaker banks in order to exploit economies of scope and diversification benefits. As a result, the number of small banks would be smaller and thus, small firms may find it more difficult to obtain funds from banks. Third, as the size of banks becomes larger through financial conglomerations, concentration of power in the banking sector may occur. This may deter the development of capital markets since banks tend to place priority on lending businesses over securities businesses and tend to be reluctant to initiate financial innovation.
9. Fourth, conflicts of interest between banks and investors may emerge, as exemplified by the case that banks attempt to underwrite securities of troubled borrowers where the proceeds of the issues are used to pay off banks' own loans to the firms. The presence of such conflicts may weaken investor confidence in the capital market and thus discourage the market to develop further. Fifth, issuers may find it difficult to switch from bank underwriters to independent underwriters when they have already formed long-term banking relationships with the former, resulting in high switching costs. If public investors cannot trust independent underwriters, they would discount the value of corporate bonds underwritten by even honest underwriters.
10. Sixth, when banks engage in large-scale securities and derivatives activities as dealers and/or end users, banks bear various risks—such as the risk of buying up unsold securities underwritten by them, counterparty risk, market risk and etc. Thus, the failure

of these businesses may weaken solvency of these banks and trigger systemic banking crises. In particular, derivatives activities are generally conducted by a limited number of large banks, making a systemic banking crisis a plausible outcome. Furthermore, derivatives activities may lower transparency by increasing the speed and complexity of transactions. Thus, the regulator may find it more and more difficult to contain risks associated with derivatives transactions because of the extreme difficulty in understanding the nature and risk and closely and promptly collaborating across nations.

11. Therefore, in searching for appropriate regulatory frameworks for the intermediate financial structure, the advantages and disadvantages described above should be carefully examined and regulatory frameworks should take into account those tradeoffs. In other words, regulatory frameworks for the intermediate financial structure should include (1) a further strengthening of the banking sector, (2) measures to contain disadvantages arising from banks' engagement in securities businesses, (3) measures to cope with problems associated with derivatives activities, and (4) coordination issues among relevant regulators.

Strengthening the Banking Sector in Asia

12. First of all, priority should be placed on strengthening of the banking sector even more seriously than ever. First, banks may face new risks or amplified risks as a result of their engagement in securities and derivatives activities. Second, banks are likely to face a higher default ratio on their average bank credit since large, reputable firms increasingly issue securities and thus only small firms without such access depend solely on bank loans.
13. How should we strengthen the banking sector? In the case of Asia, three separate steps are required to be taken. The first step is to remove government intervention both in directing private bank credit to special industries and/or companies selected by the government and in bailing out any banks in distress regardless of their viability. Such intervention discourages banks' incentives to conduct risk management based on processing idiosyncratic information about their clients and prudently monitoring borrowers' performance.
14. The second step is to limit banks' lending in favorable terms to firms that are connected to each other through holdings of shares—connected lending. In general, the ownership of

Asian firms is highly concentrated through family controls and group affiliations, which generates 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 pyramid structures—where a firm owns a majority of the stock of one firm, which in turn holds a majority of the stock of another firm and this process can be repeated several times.

15. Banks are often incorporated in this pyramid structure, providing loans to affiliated firms without properly taking into account risks involved. Therefore, it is also important to limit banks' holdings of equity issued by nonbank firms until banks improve their internal risk management systems. At the same time, special attention should be paid to the quality of banks' own capital, since banks' shareholders—often concentrated—may constitute largely banks' borrowers or may raise funds for purchasing banks' shares from unregulated financial companies. In such cases, banks' capital requirement should be raised further until banks' management becomes clearly separated from their ownerships.
16. Once government intervention and connected lending are reduced, the third step is to adopt prudential regulations and supervision similar to those in industrial countries. This sequence is important because until the first two steps are undertaken, the soundness of the banking system would not improve meaningfully even though sophisticated prudential regulations are introduced. Traditional indicators frequently used in industrial countries to estimate the soundness of banks include capital adequacy ratios, liquidity ratios, and non-performing loan ratios. However, these indicators are not necessarily effective in Asia. This is because (1) the poor accounting, auditing, disclosure requirements, (2) the concentrated ownership of bank equity and subordinated debt by large family businesses, as discussed above and, (3) illiquid secondary markets of their own capital. Therefore, prudential regulations and supervision should be supplemented with the use of market-related indicators in addition to traditional indicators if the soundness of Asian banks is to be evaluated in a more realistic manner.
17. The market-related indicators include (i) deposit rates, (ii) interest rate spreads of banks, (iii) interbank rates, etc. The first two indicators are useful, because low interest rate spreads and high deposit rates indicate the weakening performance of banks. This is because 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 interest rate spreads decline. The third indicator is also useful, since banks may know financial positions of other banks much better than depositors or bank shareholders through conducting financial transactions with each other in interbank markets.

Containing Disadvantages of Banks' Engagement in Securities Businesses

18. How can various disadvantages arising from banks' engagement in securities businesses be mitigated? What organizational form should be selected? One needs to examine whether the disadvantages could be contained under the banking organization where banks directly engage in securities activities. Alternatively, the disadvantages should be mitigated by separating securities activities from banking activities through establishing legally separated subsidiaries. The former refers to the universal banking form of banking organization. The latter is divided further into two forms: (1) banks with their own subsidiaries ("bank subsidiary form") and (2) bank holding companies under which securities subsidiaries operate ("BHC form").
19. The universal banking form assumes that the regulator is able to contain various problems associated with securities services either by combining all activities within the banking entity and pooling risks with a common capital adequacy requirement to the combined businesses, or defining banking and securities activities and applying differential capital requirements on them based on definitions. The latter require banks to set higher capital adequacy requirements on banking services than securities services because banks are exposed to liquidity and systemic risks. The latter includes a trading book approach adopted in the European Union, which segregates securities trading book from the rest of businesses and makes trading book alone be subject to different capital requirements.
20. In practice, however, such approaches may be difficult to implement. First, the approaches require sophisticated accounting, auditing and disclosure standards in order to mitigate disadvantages arising from banks' engagement in securities businesses. Second, differential capital requirements among various types of services may give rise to regulatory arbitrage. Third, since banks are able to get lower funding through various safety nets than nonbank financial institutions, they may have strong incentives to engage in securities businesses more intensively. This may incur moral hazard problems, reinforcing banks' excessive risk taking behavior. These problems are serious, particularly in Asian developing countries where regulatory capacity and expertise are

too limited to cope with the variety of problems arising from banks' engagement in securities businesses.

21. In this circumstance, it may be desirable for banks to engage in securities services at separate subsidiaries or legally independent firms. Thus, the choice will lie between the bank subsidiary form and the BHC form, both of which separate banking businesses from securities businesses with firewall provisions.
22. In Asia, the bank subsidiary form may be suitable for four reasons. The first reason is that banks may directly exert discipline on the management of their securities subsidiaries, while they are not able to do so under the BHC form. The second reason is that it is cheaper to establish the bank subsidiary form of banking organization than the BHC form. Third, there appears to be a natural preference to the bank subsidiary form over the BHC form in countries whose banks are free to choose any form. These factors suggest that the bank subsidiary form is superior to the BHC form. Fourth, there is no strong evidence that firewall provisions of the BHC form were effective, especially in the case when non-bank affiliates fall in financial distress. This reduces the advantage of the BHC form over the bank subsidiary form.

Managing Problems Associated with Derivatives Activities

23. Third, as derivatives businesses increase, banks—particularly large banks that originate large-scale business loans—need to enhance their internal credit rating systems. This requires highly skillful expertise and manpower as the systems involve gathering quantitative and qualitative information on highly complicated transactions, comparing the standards for each grade of these transactions, weighting these transactions in choosing a borrower grade, and supplementing this process by establishing mathematical models. Given this trend, regulators should adjust to a new environment by directing their supervisory methods towards more risk-focused monitoring than balance sheet-based monitoring. The important issues should be placed on what types of risks that banks are facing and how they manage those risks.
24. Furthermore, the regulators may be able to limit risk and problems associated with derivatives activities by encouraging transactions to be conducted at organized exchanges, or imposing margin requirements and/or increase collateral if transactions take place at over-the-counter (OTC) markets. Also, imposing limit on large-scale derivatives

activities may be desirable.

Coordinating Banking and Securities Market Regulators

25. Fourth, as banks increasingly engage in securities and derivatives activities, relevant regulators need to coordinate in order to improve the effectiveness of regulation. Regulators need to examine whether they should take an umbrella approach in which banking and securities regulatory authorities are separately established and coordinated or an integrated approach in which all relevant regulators are integrated under the uniform authority. It may be desirable for Asian developing countries to select an umbrella approach since they have not sufficiently strengthened prudential regulations and supervisions in the banking sector. In this circumstance, the integration of a bank regulator with other nonbanking regulators may lower confidence in the overall financial system, since such an integration may weaken regulatory capacities of the banking regulator given limited human and financial resources. Furthermore, many countries have not established independence of regulatory regimes including central banks from policy intervention. 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 (SME), 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 schemes 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.

Furthermore, banks are already playing a crucial role in the corporate bond market as underwriters, investors and issuers in a number of Asian countries, reflecting their dominant position and good reputation achieved through the long-term presence in the financial market. This suggests that the banking industry is complementary to the development of corporate bond markets in Asia. This paper refers to such a situation as the "intermediate financial structure"

since it lies between the bank dominated financial structure where banks take public liquid saving and finance businesses investment and the fully-fledged capital market-based financial structure where numerous, diversified non-bank issuers and investors are present. As the intermediate financial structure is likely to prevail in Asian countries in the medium term, it is important to analyze how to improve the soundness of the banking system under such a structure by dealing with the following five issues:

First, the paper examines what kinds of potential disadvantages that the intermediate financial structure gives rise to when banks enter into securities and related businesses (i.e. derivatives). Those include (1) a higher default ratio faced by small banks, (2) a concentration of power in the banking sector, (3) an increase in bank lending in favorable terms to affiliated securities unit or entities, (4) spillover effects of the failure in securities and derivatives businesses to the banking sector, (5) a slower pace of financial innovation compared with independent investment firms or other financial institutions, (6) conflicts of interest between banks and investors, and etc.

Second, the need to improve the balance sheets of banks becomes an even more important and urgent issue in the intermediate financial structure. This is because new risks emerge and existing risks are amplified as a result of their engagement in securities and derivatives businesses. Furthermore, small banks may become disadvantageous, because not only they are unable to exploit economies of scope fully, but also they face a higher default ratio on their average bank credit. The traditional banking system does not require banks to meet a minimum market scale to be able to exist, although there are opportunities for increasing returns to scale in gathering and producing inside information. However, as banks enter into securities businesses, economies of scope become main advantages in conducting nonbanking businesses. Therefore, the increased focus on securities businesses by banks may promote mergers and acquisitions and give rise to megabanks. For these reasons, the internal risk management mechanisms based on collecting and processing information about their clients and monitoring them should be strengthened and prudential regulations need to be improved.

Furthermore, the paper needs 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.

Third, the regulator needs to examine whether the disadvantages arising from banks' engagement in securities and derivatives activities should be contained by defining banking and securities activities and regulating them through differential capital requirements, or by requiring securities activities to be conducted by legally separated subsidiaries or entities. This issue is closely related to the choices of organizational form of banking organization.

Fourth, the banking system is becoming more and more market-based in recent years, especially in industrial countries and a few emerging market economies. 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. Consequently, this movement shifts relationships-based banks to more market-based banks. Although it may take time to realize this in Asian developing countries, it is likely to gradually change the content and emphasis of the bank regulation. It is likely that differences between bank regulation and securities regulation will shrink in this event compared with the case when banks heavily perform relationship lending.

Fifth, the issue of how to coordinate among relevant regulatory authorities becomes important as banks increasingly enter into securities businesses. It is important to discuss whether those regulatory authorities should be integrated into one regulatory authority or coordinated functionally.

This paper consists of five sections. Based on the observations of the financial structure in four countries—Indonesia, Malaysia, Republic of Korea, and Thailand, Section II focuses on the role of the banking sector in their corporate bond markets. Section III discusses the concepts, advantages, and disadvantages of the intermediate financial structure. The section also restates banks' essential roles and, since that they are likely to remain, stresses that banks are likely to survive even in new environments. Section IV focuses the regulatory frameworks that are applied to the international financial structure. Section V contains concluding remarks. Finally, this paper focuses on the case that banks are privately owned. While issues with respect to government-owned banks and denationalization of nationalized banks during the banking sector restructuring process 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.

<Insert Table 1 around here>

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 amount 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). After 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 (Table 1.d). 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.

<Insert Table 1.d around here>

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 bond issues (Table 2.d). Other major investors were insurance firms, pension funds, and mutual funds.

<Insert Table 2.d around her e>

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 size of issuance of corporate bonds as a share of GDP rose (Chart 4). 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.

<Insert Chart 3, Chart 4, Table 3.a. around here>

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—mainly caused by the impact of the difficulties faced by ITC on systemic financial sector 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

As another way to solve credit crunch problems of firms, the Korean government established the “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 through containing systemic financial problems, the increase in the issuance of these bonds may help foster the development of the corporate bond market through the increased issuance of bonds during the transition period.² 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 securitize them with credit support provided by the Credit Guarantee Fund. About 70% of the pool would be a senior tranche and thus can be sold to investors, while the remaining 30% would be assumed by creditor banks of candidate firms and KDB itself (Oh and Rhee, 2001).

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).

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.

² However, CBO result in helping ITC increase liquidity and improve returns on their investments. This may generate moral hazard problems among ITC and their investors (i.e. ultimate borrowers). ITC may increase risk-taking lending activities without worrying about liquidity problems when those invested assets become nonperforming and financiers of ITC may increase incentives to invest in ITC without worrying about risk involved. Thus, this approach should be regarded as a temporary solution.

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 public ly 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 medium term. Also, advantages and disadvantages arising in the intermediate financial structure are examined.

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.³ There are several factors behind the change in environment surrounding the banking sector. 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

First, 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,

³ 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.

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.⁴ As a result, 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 (Yoshitomi and Shirai, 2001). 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. Indeed, this may increase the availability of credit to firms. If banks expand their market power and achieve high profitability, furthermore, they may become more conservative, moderating risk taking (Matuttes and Vives, 1998). This is because market power enhances the charter value of a bank, which may decline if the bank takes more risks and fails. Therefore, this possibility gives banks an incentive to be careful about their investment behavior.

Thus, the regulator should be aware that competition may 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

⁴ 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 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.

thus failures in the banking sector from the 1980s [Keeley (1990) and Hellmann *et al.* (1997)].⁵

Advances in Information Technology (IT)

Second, 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 firms, brokerage houses, specialist firms, independent brokers, and a few companies, and it was difficult to obtain membership.⁶ 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. IT 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. As a result of advances in IT and resultant communication tools, the need for traders to be membership organizations is greatly reduced.⁷

⁵ 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).

⁶ In the case of the United States, for example, insurance firms could not become members.

⁷ 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

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 is also available through the internet, which help public investors make their own analysis and decisions about investment. Consequently, this helps investor base to expand.

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 lowers transactions costs of securitizing them (Mishkin and Strahan, 1999). Consequently, banks are likely to become more market-based.⁸

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 IT facilitate more public investors to come in and reduce the role of dealing and brokerage activities.

The Emergence of New Markets and New Players

Third, 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 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.

demonstrate expertise, the application is open to anyone.

⁸ 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).

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 in some industrial countries.

Financial Innovation

Fourth, 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 includes 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 has allowed derivatives participants more accurately to measure, price and manage their risk exposures.

Consolidation of the Banking Industry

Fifth, in recent years, a consolidation drive of the banking sector through mergers and/or branching has been increasingly observed in many countries. 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.

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 appears 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.

3. Concept of the Intermediate Financial Structure

The observations in Section II have suggested that Asian countries are entering into the intermediate financial structure where commercial banks continue to provide traditional banking services, while becoming major issuers, major investors, underwriters, dealers/brokers, and guarantors in the corporate bond market (Chart 5). Thus, banks actively engage in securities and related businesses, such as derivatives. The intermediate financial structure has the following five features.

<Chart 5 insert around here>

Continued Presence of Banks

First, banks 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. For example, even reputable, large firms, while issuing bonds, have an incentive to maintain relationships with commercial banks to some extent in order to maintain lines of credit. When firms fall into distress, it is likely that they face a complete loss of credit from capital markets, while banks that form long-term relationships with these firms continue to refinance them. This problem of credit termination in capital markets may be triggered even by a hint of financial distress.

Moreover, a large number of 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 corporate bond market development. In particular, local commercial banks are important for small firms because of more human interactions and an impression of small banks being more trustworthy and less technologically intimidating than advanced and larger foreign banks or other financial institutions.

Furthermore, 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.⁹

Transitory Stage of Financial Development

Second, the intermediate financial structure lies between a bank-dominant economy (called Stage I) where banks provide largely traditional banking services and a fully-fledged capital market-based financial structure (called Stage III) where a large number of borrowers have direct access to corporate bonds in addition to bank loans and there are numerous, diversified individual and institutional investors (Chart 6). Stage I applies to the case of a number of developing countries, whereas Stage III applies to the case where bank loans are substituted for matured corporate bonds, as exemplified in the United States. The intermediate financial structure refers to Stage II in Chart 6 where banks complement the narrow investor and issuer base. Complementarities between the banking system and the corporate bond market are present, because there are few and diversified institutional investors that are able to issue bonds at reasonable costs; individual investors have strong preference to highly liquid assets such as bank deposits; and, institutional investors such as pension funds and insurance firms are largely underdeveloped. Therefore, banks become virtually dominant financial institutions and large institutional investors. In Stage II, while bank loans are substituted for prematured corporate bond markets, this substitution is compatible with the complementary development of the corporate bond market.

<Chart 6 insert around here>

Informational Advantages

Third, banks can better handle the problems of information asymmetry by issuing and buying

⁹ This explains, as Rajan (1996) stresses, why commercial banks still have value, even though money market mutual funds can provide depositors with unlimited liquidity on demand and 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.

corporate bonds owing to their good reputation and informational advantage. Thus, it makes sense for banks to play a crucial role in the corporate bond market development especially when institutional, legal and judiciary infrastructures—as described by Yoshitomi and Shirai (2001)—are underdeveloped. It may be argued 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, even though credit rating agencies exist, some firms may not be able to reduce the information gap, 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.

Furthermore, 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 based on their informational advantages. 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.

Issuance of Medium-Term Bonds

Fourth, banks tend to hold short-term bonds in an attempt to minimize a maturity mismatch as long as their liabilities are mainly in the form of short-term bank deposits. Furthermore, 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 a strong incentive 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, 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.

One way to lengthen the maturity of bonds, therefore, is to allow banks—so-called “long-term credit banks”—to issue relatively longer-term bank debentures to finance longer-term investment projects.¹⁰ 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, credit unions or wealthy individual investors may purchase medium-term bank debentures (e.g. 1-5 years) issued by long-term credit banks, which in turn provide medium- to long-term loans to the private sector. Longer-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. This transformation of short-term funds to long-term loans through the intermediation of long-term credit banks could contribute to economic growth, as was seen in Japan during the high growth period.¹¹

¹⁰ In Japan, long-term credit banks were 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 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 Bank of Japan (BOJ) supported them indirectly by qualifying bank debentures for use as collateral on BOJ loans and by using them in open market operations (Koyanagi, 2001). Long-term credit banks helped to develop core heavy industries in Japan by transforming short-term funds to medium- and long-term funds that are allocated to these industries. Long-term credit banks carefully screened new, venture-style industries and extended loans based on their demand forecasts.

¹¹ 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 indirect 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). 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. 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.

Medium-Term Perspective

Fifth, the intermediate financial structure may work effectively in the 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 (Stage III), turning complementarity to conflicting substitution.

4. Advantages of Financial Conglomeration

This section discusses various advantages that may arise when banks are allowed to undertake securities and other related businesses. Some advantages—such as a mitigation of a maturity mismatch, informational advantages, economies of scope, diversification benefits, operational efficiency, economies of scale—may be applicable to the banks that engage in those activities. Meanwhile, other advantages—such as a lengthening of the maturity of debt, a mitigation of the conflicts of interest between banks extending loans to firms and shareholders of these firms, a better input choice—may accrue to the borrowing firm and economy.

Minimizing a Double Mismatch and Promoting Economic Growth

First, banks' engagement in securities businesses 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 aforementioned long-term credit banks are able to issue medium-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, financial conglomeration promotes efficiency by allowing banks to utilize inside information. Through long-term lending relationships, banks already possess inside information about creditworthiness of borrowers and features of their investment projects that are not readily available to outsiders. Thus, banks do not need to spend a lot of resources in collecting

information about their clients that is necessary for underwriting securities issued by them. Thus, banks are able to underwrite securities at lower costs than nonbank underwriters.¹² For example, firms issuing junior and more information-sensitive securities may receive higher prices when banks underwrite them than when independent investment firms do so, because of perceived monitoring advantages of the banks that are a by-product of their lending activities.

Information and control advantages may also occur in a dynamic context. 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 life 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 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).

¹² In Japan, banks used to be lead underwriters, whereas securities firms served as subordinate underwriters until 1948. This differential role reflected 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 role. These so-called "commissioned banks" together with underwriting securities firms served as mediators in the bond market 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.

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. 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).

Gaining from Diversification Benefits

Fourth, banks can obtain diversification benefits by diversifying their activities, thereby reducing bank's costs of funds and maintaining their profitability. Since incomes 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.

Exploiting Economies of Scale

Fifth, 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 GM 5 million and also significant scale economies for a sample of relatively small Bavarian cooperative banks.

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. Increasing competitive pressure and technological advances force banks to shift to an institutional form that allows maximum x-efficiency. 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. 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. 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.

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 integrated banks over specialized banks. Vennet (1996) has found that in the EU, bank mergers improved rationalization.

Based on a full sample consisting of 2,375 banks from 17 European countries during 1995-1996, Vennet (2000) has found that while specialized banks appear to exhibit no disadvantages relative to financial conglomerates in traditional intermediation activities, the latter are most cost efficient when nonbanking activities are taken in account. Vennet has also found that integrated banks had higher average levels of operational efficiency relative to specialized banks and this finding was most pronounced for non-German banks. The integrated banks also dominate specialized banks in terms of profit efficiency. The continued expansion of financial conglomerates 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.

Reducing the Conflicts of Interest between Stockholders and Creditors

Seventh, banks may be able to reduce conflicts of interest between creditors to the firms and shareholders of these firms by holding stocks of their clients. The conflicts are likely to arise when the firms are distressed and near bankruptcy. This is because banks tend to be conservative since banks claim promise a repayment of principal and interest and concentrate risk over the payback period. Whereas shareholders may have incentives to increase risk-taking lending activities since they have limited liability and equity claims promise a payment of a share of profits. Thus, the fact that the banks control their clients' stocks can reduce the potential conflicts of interest between stockholders and creditors in developing a reorganization plan. 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.

Improving the Composition of Input Choices

Eighth, banks' engagement in nonbanking services may lower the adverse effect of high costs of external finance on the composition of input choices. Calomiris (1995) has compared German universal banks and banks in the United States that were not integrated due to regulatory limits during the second industrial revolution period of 1870-1913. This period involved large-scale production and distribution activities, which required rapid financing to large industries. Also, this period gave rise to many new products and new technologies on an unprecedented scale, particularly in the machinery, electricity, and chemical industries. Consequently, novelty of these production processes posed severe information and control problems for external sources of finance, because of the difficulty of evaluating proposed projects and controlling the use of funds.

In this period, German banks enjoyed lower industrial finance costs than those in the United States because the former could diversify their businesses (Calomiris, 1995). High financing costs retarded industrial growth in the United States relative to its potential and biased the process away from fixed capital-intensive industrialization toward a greater reliance on raw materials and labor. In particular, industrial buildings and equipment are considered less desirable inputs than materials and accounts receivable for a financially constrained firm, because they are less liquid.¹³

¹³ For example, during the pre-WWI period, 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

5. Other Businesses Potentially Undertaken by Banks

In addition to securities and derivatives businesses, banks may engage in other nonbanking activities. Allen and Gale (2000) have stressed that financial conglomeration in Europe have been successful than that in the United States. 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 provide 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.

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. Also, sales personnel with fixed salaries are generally less expensive than traditional brokers who receive commissions. Banks can use customer information to tailor their sales approach and target products to individuals. 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).

Based on US data during 1970s and 1980s, Boyd et al. (1993) have concluded that mergers

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 United States 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.

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. Because of the highly regulated nature of the banking industry, this industry proves to have the lowest risk among the group. For example, 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.

Based on the US data of 1984 and 1998, furthermore, 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.¹⁴ They have found that 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. Moreover, Saunders and Walter (1994) have found that expanding banks' activities reduces risk especially when insurance services are combined.

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 the rising income and wealth and the

¹⁴ 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%.

rising share of older people.

6. Disadvantages Arising in the Intermediate Financial Structure

When banks enter into securities and derivatives businesses, banks may experience various disadvantages including a higher default ratio on their loans to firms, an emergence of new risk, an aggravation of existing risk, a deterioration of efficiency, and a slower pace of financial innovation compared with independent investment houses, and so on. Furthermore, investors may suffer from the low quality of securities services that arise from conflicts of interest. Issuers may also face higher switching costs, while other small firms may find it difficult to get financing from banks, particularly small banks.

The Higher Default Ratios of Bank Loans

First, large, reputable firms increasingly issue securities at low costs in the capital market. Thus, commercial banks are likely to end up providing loans to small, relatively newly established firms that are not able to raise funds directly from markets. Since their income streams and creditworthiness are relatively uncertain, loans to these firms may increase the default probability. Consequently, these banks may face a higher default ratio on their average credit.

The Crowding Out of Small Businesses

Second, furthermore, financial conglomeration may make larger banks more profitable and efficient while making specialized or small banks competitively disadvantaged. As large banks increase businesses with large customers and expand their size through purchasing small, weak banks, the number of small banks becomes smaller.

These forces may not increase much downside costs for consumers who demand relatively generic financial services and increasingly wish to obtain financial services in national markets with substantial competition.¹⁵ Equally, these forces may not cause little downside costs for large

¹⁵ 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

and middle firms who wish to obtain a wide variety of financial services from large banking organizations.

On the other hand, there is a growing 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 a number of industrial countries, is enhancing this tendency. This is because acquiring banks have often imposed their own idiosyncratic policies and procedures on acquired banks, stripping the latter 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).

Based on the theories of economies and finance, SME usually find it necessary to have a relationship with an individual bank that understands the local business market and is staffed with local personnel. Trust is a necessary condition for establishing and continuing a long-term relationship between banks and borrowers so that the latter are able to obtain tailor-made services that are necessary to meet idiosyncratic shocks. 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. Berger and Udell (1995a) have found that small businesses tend to consolidate their working capital financing with a single bank. Banks collect inside information through repeated transactions and long-term relationships and use this information to refine the terms of the lending contract. Also, small business borrowers with long banking relationships tend to pay lower interest rates to the banks and have fewer collateral requirements. Since the severity of asymmetry in information tends to be greater for SME, 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 tend to reduce their supply of loans to SME.¹⁶ This tendency reflects the fact that the delivery of banking services to SME is

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.

¹⁶ 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

fundamentally different from that to large firms. Lending to SME 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). The problem of reduced bank loans to SME can 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).

Williamson (1967) has provided another explanation to why the trend toward large, complex banking organizations has reduced the supply of credit to SME. He has emphasized that managerial diseconomies may occur when multiple activities are undertaken by large, complex organizations. As banks become larger and more complex, more dimensions of managerial oversight become necessary. For example, the joint provision of banking services to SME with securities 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.

These findings suggest that an important role remains for community-based small banks, since they have an advantage over large banks in extending loans to SME due to their local roots and knowledge of the local community.¹⁷ Nakamura (1994) has pointed out that small banks

and require collateral about 25 percent less of the time than small banks. Furthermore, large banks were found to issue fewer loans to small business 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.

¹⁷ 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. Further, Lawrence and Klugman (1991) also have found no evidence that bank holding companies (BHC) competed unfairly over other small banks in rural markets in the case of the United States. Goldberg and Hanweck (1988) have concluded that the ability for BHC 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.

may survive, since they can offer deposit accounts to SME, through which they gain better assess creditworthiness of their borrowers by monitoring cash movements of those accounts. Calem (1993) has argued that small banks have advantages in servicing small borrowers because of their shorter lines of command and personalized services. Thus, 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. The decline in the market share of small banks leaves them no choice but to raise their lending rates to maintain profitability, since small banks are less efficient than large banks to maintain profitability and offset operation costs.

Conflicts of Interest between Banks and Investors

Third, the financial conglomeration of the banking system may lead to various conflicts of interest between banks and investors when banks undertake securities businesses. 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 that are 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. This is because the former has the desire to complete those transactions, while the latter are motivated to maximize commissions and spreads by providing timely, high-quality information for their clients.

Furthermore, 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.

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 malpractices. Conflicts of interest can be exploited especially when (1) there is some monopoly power as with tie-in deals, (2) there is the asymmetry of information between the contracting parties as in the conflict between the bank's promotional and advisory roles, or (3) one of the parties involved is naive as when securities are issued to transfer bankruptcy risks to outside investors (Santos, 1998).

The Emergence of Lemon Problems

Fourth, the pre-emptive behavior that banks can adopt may deter other independent financial institutions from competing for their client's businesses. By having better information about the borrowing firms, 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 switches to independent underwriters (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 and consequently, it may charge higher premiums, thereby raises the firm's switching costs.

Concentration of Power

Fifth, banks' engagement in securities and derivatives businesses may promote the concentration of power in the banking sector as the size of banks expands. This is partly because banks have a natural tendency to promote lending businesses than securities businesses, thereby indirectly deterring the development of the capital market. Furthermore, banks' reputation and informational advantages increase their advantageous positions, preventing independent investment firms from competing with banks on the equal playing field.

The Emergence of New Risks

Sixth, 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 fee-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 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. 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.¹⁸

In addition, banks may face market risks as they increase the share of securities holdings and lower the share of illiquid bank loans. Equity and other types of assets are relatively risky themselves. Kroszner (1999) has pointed out that there is historical evidence that permitting banks to expand their portfolios to include equity reduces income stability.¹⁹

Amplified Risk with Derivatives Activities

Seventh, various risks associated with derivative business should be considered. The risks of derivative transactions includes market risk, credit risk, operations risk, and legal risks, all of

¹⁸ Furthermore, the presence of this risk gives incentives to investment 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.

¹⁹ However, it is increasingly understood that the risk arising from holdings of stocks can be

which are the same type of risk that banks and securities firms face in their traditional business operations. Some argue that net exposures of derivatives dealers can be quite small 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 marked-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.

Nevertheless, derivatives activities are different from other securities businesses owing to the special attributes of derivatives : complexity and rapid risk transformation. 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. Lack of transparency associated with derivatives activity vis-à-vis management, regulators, and financial markets weakens market discipline and regulatory oversight.²⁰

reduced by diversifying the holding.

²⁰ 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

Moreover, 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.²¹ 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.

Furthermore, bank dealers are generally concentrated.²² 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. The concentration of large-scale derivatives trading in a few major financial institutions may undermine financial stability.²³ The failure of one large derivatives dealer may inflict large losses on counterparties, while also damaging the liquidity of the derivatives market.²⁴ The too-big-to-fail doctrine has not only been

involved the massive losses caused by the non-enforceability of swap contracts entered into by local authorities.

²¹ 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.

²² 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.

²³ 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 its risky securities operations in Singapore (Dale, 1996).

²⁴ However, Dale (1996) has pointed out that official intervention to prevent end user derivatives

reinforced but may have to be extended to nonbank derivatives dealers. Moreover, a 1994 GAO report has stressed that a default by a major OTC derivatives dealer (particularly a major bank) could spillover and close down OTC markets (Mishikin, 1995). 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.

Moreover, derivatives activities may increase the volatility of financial asset prices.²⁵ 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 ¥101 per US dollar in January 1995 to ¥80 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 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). Derivatives activities also increase the potential for cross-border and cross-market contagion, while end users do not understand how these instruments work.

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

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.

²⁵ 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).

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).

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 Slower Pace of Financial Innovation

Ninth, financial conglomeration gives rise to conflicts between innovative drive present in the securities market and that present in relationship banks. In the securities markets, innovation is fostered by enhancing competition and specialization and by the fact that advances in customer services drive profits. Since small innovations are applicable to widely traded market instruments, innovation can be remunerative (Steinherr, 1996). 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 (Steinherrg, 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.

Independent investment firms 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, on the other hand, 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 firms 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 firms and commercial banks. Consequently, integrated banks need higher expected profits from the innovation than do functionally separated investment firms. 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.²⁶

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

²⁶ 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.

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.

In the meanwhile, the securities market may discourage firm-specific investment compared with the banking system. 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.

IV. Regulatory Frameworks for the Intermediate Financial Structure

This section focuses on the regulatory frameworks that apply to the intermediate financial structure. Based on various disadvantages arising in the intermediate financial structure as discussed in Section III, Section IV discusses measures to mitigate them. The measures include (1) a further strengthening of the banking sector, (2) an application of differential capital requirements, (3) the organizational forms of banking organizations, (4) managing derivatives activities, (5) an improvement of internal risk management systems, (6) shifting toward more risk-based bank supervision, and (7) coordination among relevant regulators.

1. Strengthening the Banking Sector

The higher default ratios on average bank loans require banks to improve their internal risk management skills even more intensively in the intermediate financial structure. Furthermore, banks' engagement in various businesses generates new risk as well as amplifies various risks, increasing the need to improve their balance sheets further. Moreover, 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. For these reasons, the regulator should improve banks' soundness—particularly by taking the following two steps: (1) improving banks' incentives to generate and process information about their clients and monitoring their

performance and (2) adopting prudential regulations practiced in industrial countries. In considering policies, it is important to take into account specific issues applied to Asian countries.

Improving Banks' Incentives to Monitor Their Borrowers

There are mainly three factors that have lowered banks' incentives to monitor borrowing firms by paying agency costs of collecting, analyzing and processing information about them (Yoshitomi and Shirai, 2001). First, strong government intervention in directing and guaranteeing bank credit adversely affected the incentives. In order to encourage the expansion of particular industries or firms, for example, some Asian governments became heavily involved in directed financing of projects in industries that they selected for promotion. When the extension of external markets is limited and the capital markets are at a nascent stage, these governments may be able to coordinate private investment well so as to induce their economies to take off. As the external markets expand and the industrial input-output nexus becomes complex, however, such government interventions are likely to fail.

Second, in order to achieve financial stability and minimize risks borne by banks in the face of such failure, these governments provided implicit guarantees to bank loans and bailed out borrowing firms regardless of their viability when they fell into financial distress. As a result, banks' incentives to collect information and properly monitor their borrowers were considerably reduced, undermining the development of their internal risk management skills.

Third, banks are often owned by family businesses under the family-controlled conglomerates. Alternatively, banks own family businesses under the conglomerates. It is known that 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). Multiple classes of voting rights reflect a deviation from the one-share-one vote rule and are moderately utilized in many East Asian countries. Pyramid structures—most pervasive in East Asia—are defined as owning a majority of the stock of one firm that holds a majority of the stock of another and this process can be repeated several times. Cross-holdings—although less pervasive than pyramid structures—refer to the case where a company holds shares in another company in its chain of control.

Banks are incorporated in the family business conglomerates. Thus, banks often provide loans in favorable terms to their affiliated firms without taking into account risks involved. Thus, it may be necessary to limit banks' ownerships of nonbank firms until banks improve their internal risk management systems.²⁷ 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. 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. Furthermore, special attention should be given to banks' own quality since bank shareholders are not only often concentrated, but also banks' customers, as discussed below. Furthermore, bank shareholders may raise funds for purchasing banks' equity from unregulated nonbank financial firms. In such cases, the poor quality of bank loans reflects the poor quality of bank equity. In such cases, it is desirable to increase capital requirement on those banks.

Furthermore, since banks are protected under the deposit insurance system and lender of last resort facility, they may enjoy advantages that without legal constraints might be shared with their affiliates or otherwise favored borrowers.

Adopting Prudential Regulations

Only after the problems of directed lending and too-big-to-fail policy are mitigated and a clear separation between management and ownership is established, regulators should introduce prudential regulations and supervision adopted in industrial countries, many of which are also

²⁷ One may argue that banks can increase their presence on boards of directors by becoming shareholders and improve firms' performance. The full insider status might improve information flows even further. On the other hand, 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 in these situations, 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. In addition, 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. Also, monopoly profits can be extracted by forcing increased borrowing from the bank at monopoly interest rates.

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.

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.

A lack of adequate accounting, auditing and reporting requirements in Asia, therefore, explains partly why there was a lack of awareness among market participants and regulators 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 types of banks (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%).

The capital adequacy ratio—one of the mostly frequently used indicators in the industrial countries—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).²⁸

²⁸ In general, changes in the market value of bank capital can provide information to regulators with respect to the quality of reported capital. However, this is true as long as bank equity markets are liquid and deeply developed.

If banks owned by family business conglomerates lend to these conglomerates, the poor asset quality of banks as a result of excessive risk-taking lending activities leads to the poor quality of banks' own equity. These shareholders may also finance their stakes with loans from related parties, such as nonfinancial firms that are not regulated. In these cases, own equity value or market capitalization value of bank stocks become meaningless indicators for bank soundness. When wealth is highly concentrated and only a limited number of investors become bank shareholders, therefore, it is not clear whether these shareholders' wealth is at risk when they supply equity capital to banks.

In addition, the underpricing of government-sponsored deposit insurance reduces the usefulness of markets in pricing equity, because the government becomes a de-facto contributor of capital to problematic banks, thereby increasing their risk-taking behavior.²⁹ Provided that such situations are present in Asian developing countries, it is likely that the quality of bank capital is low, severely underpricing the public safety net and creating incentives for banks to increase risk taking (Rojas-Suarez and Wiesbrod, 1996b).³⁰

Moreover, an accurate estimate of equity is difficult to achieve when markets for subordinated debt are illiquid and deep.³¹ 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).

²⁹ 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.

³⁰ If capital requirements had been effective, moreover, 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.

³¹ 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.

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.³² 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, the 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.

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).³³ 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.

³² 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.

³³ 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).

2. Regulating Securities Businesses by Capital Requirements

After examining various disadvantages arising from banks' engagement in securities and derivatives businesses, it is crucial for the regulator to focus on the vulnerability of banks in the intermediate financial structure. Banks may be exposed to securities market risks because they have lent to investment firms, engage in securities business on their own balance sheet, and so on.

Rationale for Regulating Securities Activities with Capital Requirements

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 which have been becoming complex and fast.³⁴ The related affiliate could default, damaging the credit standing of the bank.

For investment firms, however, the case for official regulation is much weaker than for banks and thus, the traditional approach has been to focus primarily on the risk to investors. This is because 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 ultimate 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

³⁴ However, 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.

additional protective measures are required in the form of capital adequacy requirements (Dale, 1996).

The second rationale for regulating investment firms 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 firms 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 between banks and investment firms, the purpose of capital requirements, for example, is different between them. 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 primarily 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.

3. Containing Disadvantages by Operational Separateness or Legal Separateness

One way to deal with the disadvantages discussed in Section III—such as conflicts of interest between banks and investors, concentration of power in the banking sector, spillover effects of the failure of securities and derivatives activities to the banking sector, switching costs, slower pace of financial innovation—is to rely on market discipline and codes of conduct with respect to practices or conditions for doing business. Also, the disclosure requirement imposed on issuers and bank-owned investment firms is important to ensure that clients of banks are fully informed about all aspects of businesses they are doing with the banks, and such information should be readily available in an understandable form. Furthermore, competition gives customers choices of various financial institutions, thus 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.

Nevertheless, these disadvantages could be present especially when disclosure requirements and code of conducts are inadequately implemented and enforced. One way to contain disadvantages, therefore, is to examine whether they should be dealt with by distinguishing

banking and securities operations based on trading books and applying differential capital requirements (operational separateness), or by separating those operations through the development of separately capitalized units in the conglomerates (legal separateness). Both measures attempt to insulate banks from risks arising from their engagement in securities and derivatives activities.

Organizational Form of the Intermediate Financial Structure

The choice of operational separateness or legal separateness is closely related to the organizational form of banking organizations. A universal banking (UB) form 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, a common capital adequacy regime is applied to the combined business. This is called “institutional regulation”. Furthermore, the trading book approach can be viewed as a variant of UB form and has been adopted in EU Capital Adequacy Directive. Under this approach, banks are permitted to engage freely in securities activities directly as defined by the trading book are subject to a capital adequacy regime separate from that for the banking business (Chart 7).

<Chart 7 insert around here>

On the other hand, there are two forms of banking organization that separate banking services and securities services with firewall provisions: (1) the banks with their own subsidiaries form (“bank subsidiary form”) and (2) the bank holding companies with their own subsidiaries form (“BHC form”). Under the bank subsidiary form, banks are not allowed to directly engage in securities businesses. Under the BHC form, BHC and bank subsidiaries are not permitted to undertake securities businesses. Both forms are designed to protect insured depositors from bearing risks associated with securities and derivatives activities in conjunction with firewalls. Legal separateness requires that banking organizations take a series of actions to demonstrate that the bank and securities 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.³⁵ Legal

³⁵ 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

separateness attempts to avoid actions that convey the impression that the bank is liable for the debts of the securities affiliate or that the liabilities of the securities entity are insured obligations. By ensuring that securities affiliates are adequately capitalized, risk to the parent and bank co-affiliates of any securities affiliates are legally limited to any equity investment in it, or to losses on outstanding loans to it.

Under the bank subsidiary form, both banks and their securities subsidiaries are supervised by a bank regulator. By contrast, under the BHC form, 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 both bank subsidiary and BHC forms, the parent company directly benefits from profits earned at both subsidiaries. The difference between these forms is that under the bank subsidiary form, a bank reaps profits and bears losses associated with securities activities, whereas under the BHC form, a bank is not exposed to securities losses and profits earned.

The subsidiaries and BHC forms 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 universal banks can have in offering securities services because of their 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.

With respect to banks' ability to transfer subsidies to their affiliates, they can transfer subsidies through capital infusions into the securities units on terms that favor the latter under the bank subsidiary form. 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 form, it is difficult for banks to use this channel since the capital of the securities unit is an investment of BHC and there are restrictions on the dividends that a bank can pay to BHC.

The UB form and the BHC form constitute two extreme forms of banking organizations. By

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.

contrast, the bank subsidiary form lies between these two extremes. The section below focuses on the UB form and BHC form.

(1) The Universal Banking (UB) Form

The UB form creates a situation in which the heavy social costs associated with bank failures are carried over into the securities market. The first advantage of this form 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. A bank that offers both lending and securities services can fulfill the firm's funding needs throughout a financial life cycle. 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. The UB form allows for a smoother extraction of the "quasi-rents," which enable the bank to maintain a long-term bank-firm relationship. Also, this form enables banks to extract rents over a longer time horizon, thus lowering financial costs of borrowers in the early stages of the relationship 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. 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.³⁶

The second advantage is that universal banks are able to fully exploit the advantages of information by allowing banks to learn more about their clients through observing their behavior with respect to a greater number of financial instruments. 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 the bank obtains. If a bank and a firm expect to do business for a long time, furthermore, the bank is willing to invest in gathering and processing information about the firm and to spread the cost of the investment over a longer time horizon, thereby reducing the up-front cost of capital to the

³⁶ 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.

firm. As information available about a firm, its financial needs and its reputation change over its life cycle, 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, the UB form may help lower underwriting costs. In a world with perfect information and no physical transaction costs, underwriting cost differences between universal banks and independent investment firms 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.

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.

With respect to underwriting costs, Calomiris (1995) has compared 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.³⁷ Based on

³⁷ In addition, there are two types of empirical studies for the period prior to the Glass-Steagall Act. The first examines the long-run performance of issues underwritten by banks compared to those underwritten by investment firms (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 firms during 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 securities underwritten by commercial banks had a better default record in the long term than those underwritten by investment firms despite the potential conflicts of interest.

the evidence of the 1920s, on the other hand, 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 banks that wish to enter into securities businesses should be aware that organizational, compensation, and control structures must be adjusted accordingly.

Regarding profitability, 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. Moreover, other research studies on Israel and other European countries have found strong evidence of economies of scope in the joint production of these services [Clark (1988), Mudur (1992), and Forestieri (1993)].

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. 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. Furthermore, Drake (1992) has reported that building societies in the United Kingdom had diseconomies of scope.

The second type of studies examines ex-ante pricing of corporate debt for the period prior to the Glass-Steagall period. These studies have found that issuers of securities underwritten by commercial banks obtained higher prices ex-ante than those of securities underwritten by investment houses (Puri, 1996a). The results support the view that investors anticipated correctly the higher quality of bank underwritten issues.

Regulations under the UB Form

Theoretically, bank regulators are able to regulate and monitor banks' engagement in securities activities by applying differential capital requirements or adopting the trading book approach. However, in practice, there are a few problems. Under the UB form, 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 definition of 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 independent 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 to 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. Some may say that banks loan portfolios should be treated no differently for capital adequacy purposes than securities holdings. For these reasons, it is difficult to distinguish banking and securities activities and attempt to contain various disadvantages based on the trade book approach. Rather than using it for solvency purposes, therefore, it may be argued that the trading book concept should be used for the purpose of achieving competitive equality between banks and investment firms.

(2) The Bank Holding Companies (BHC) Form

Advantages of the BHC form over the UB form and the bank subsidiary form 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 subsidiary forms, securities activities are subject to the bank regulation, whereas independent securities firms are subject to the securities regulation. This generates a regulatory duplication in those securities that are already subject to securities regulation. In addition, universal banks or banks' own 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 form 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.

The Validity of Firewall Provisions

Few countries outside of the United States have adopted the BHC form. 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 the BHC form 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, 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—one of the largest banks in the State of Tennessee in those days. This bank was owned by its holding company named Hamilton Bankshares. 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 US\$ 100 million of real estate loans from the mortgage company, plus an additional US\$ 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.³⁸

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 middle of 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 form 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

³⁸ 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.

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 BHC management will knowingly violate banking laws by forcing their banks to bail out failing BHC 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 BHC 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, BHC 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.

Empirical Evidence on US Subsection 20 Subsidiaries³⁹

³⁹ 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.

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 BHC with the exception that more restrictions are imposed on the sharing of informational, financial, and real resources among Section 20 subsidiaries than BHC 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 firms. 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 US\$ 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 US\$ 107 million, whereas that of investment bank underwritten issues was US\$ 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.⁴⁰

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 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

⁴⁰ 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 firms for larger issues if they so chose.

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.

Moreover, 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 firms 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 firms. 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.

With regards to the evidence on economies of scope, 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.

Rationales for Regulating BHC

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 “BHC 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 securities activities should be conducted either in the holding company itself or in securities 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.

4. Growing Importance of the Internal Credit Rating Systems

Internal credit rating systems 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 three 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.

5. Managing Derivatives Activities

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.

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.⁴¹ Capital 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

41 The 1988 Basle Accord incorporates capital requirements for OTC derivatives positions. The current replacement cost is calculated using marked-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 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 bank derivatives dealers are able to support a large volume of gross counterparty positions.

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 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 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.

6. 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.⁴² Traditional bank supervision has four features. First, the bank regulator

⁴² 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.

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 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.⁴³ 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

⁴³ 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.

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.

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 in 1999, 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.⁴⁴

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,

⁴⁴ 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.

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.

7. Integrated versus Umbrella Approach to Supervision

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?

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 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 they 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. Conclusion

This paper has indicated that banks can play a crucial role in fostering the corporate bond market give 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 securities and related 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 securities services, thus limiting banks' excessive risk taking behavior.

This situation is called the "intermediate financial structure" since it lies between a bank dominated financial structure where banks are dominant financial institutions and provide mainly traditional banking services and a fully-fledged capital market-based financial structure 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.

Banks that engage in securities businesses can exploit economies of scope and enjoy diversification benefits and high profitability, thereby limiting banks' excessive risk-taking behavior. Because of their informational advantages, bank underwriters may be able to underwrite securities at lower costs, contributing to firms' investment growth. On the other hand, since the size becomes an important issue, this may promote merges and give rise to megabanks, 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 smooth shift from the intermediate financial structure to the fully-fledged capital market-based financial structure. 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 and cutting lending to SME. Since there are relatively a large number of SME 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 medium-term bank debenture. In this sense, establishing so-called “long-term credit banks” that issue medium-term bank debentures can be desirable to facilitate transformation of short- and medium-term funds to long-term funds that are then allocated to the private sector.

In the intermediate financial structure, 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 their internal risk management skills. Furthermore, banks’ engagement in securities and derivatives activities may generate new risks as well as amplify existing risks, which enhance the need to improve the soundness of the banking sector even further. 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. Moreover, it may be desirable to impose limit on banks’ holding of nonbank firms until a clear separation between ownership based on cash flow rights and management based on control rights is established and enforced.

Once direct lending and too-big-to-fail policy are reduced and a clear separation between ownership and management is established, the bank regulator should adopt prudential regulations practiced in industrial countries. However, those prudential regulations may not be effective when informational, legal, and judiciary infrastructures are inadequately implemented and enforced. In such cases, additional instruments are necessary to deal with issues specific to Asian countries. 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.

Furthermore, it is desirable for Asian countries to cope with disadvantages—such as conflicts

of interest between banks and investors—arising in the intermediate financial structure by introducing firewall provisions rather than defining banking and securities businesses and regulating them with differential capital requirements, which requires sophisticated regulatory regimes. In other words, it is desirable to introduce the bank subsidiary form or the BHC form rather than allowing the universal banking form in the intermediate financial structure. Between the bank subsidiary and BHC forms, the bank subsidiary form may be more suitable than the BHC form for four reasons.

First, banks are able to exert controls or disciplines on their own securities firms under the bank subsidiary form, while this is not possible under the BHC form. 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.

Second, the bank subsidiary form can be less expensive to develop and operate than the BHC form because it does not require an additional company—the holding company.

Third, banks appear to prefer the bank subsidiary form over the BHC form when choices are given. For example, banks tended to place securities activities in subsidiaries during the period prior to the Glass-Steagall Act (Whalen, 1997). 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. In addition, even in countries that permit the universal banking form, some banks choose to conduct certain activities in subsidiaries of the parent banks rather than in the banks themselves.

Fourth, two episodes in the United States that use the bank holding companies form have revealed that firewall provisions are not as effective as theories predict. This weakens the view that the BHC form gives stronger firewall provisions than the bank subsidiary form.

Furthermore, until prudential regulations and supervisions on the banking sector is improved substantially and independence of the bank regulatory authority from government intervention is achieved to a satisfactory level so that confidence on the existing banking regulatory regime is achieved, an umbrella approach based on close coordination among relevant regulators could be a desirable approach for Asian developing countries.

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 1.a Korea¹, Investors of Official Bonds

(As a Percent of Total Official Bonds Issues)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
Others	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 1.b Malaysia¹, Investors of Official Bonds
(As a Percent of Total Official Bond Issues)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
SOCSO	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 1.c Thailand¹, Investors of Official Bonds
(As a Percent of Total Official Bond Issues)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 : Jantarapavech (2001), Table 13.

Table 1.d Indonesia, Investors of Official Bonds**(As a Percent of Total Official Bond Issues)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.a Korea, Investors of Corporate Bonds**(As a Percent of Newly Issued Corporate Bond)¹**

	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.b Malaysia, Investors of Corporate Bonds**(As a Percent of Total Corporate Bond Issues)¹**

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.c Thailand, Investors of Corporate Bonds**(As a Percent of Newly Issued Corporate Bonds)**

	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.d Indonesia, Investors of Corporate Bonds
(As a Percent of Total Corporate Bond Issues)¹

	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 Bonds
(As a Percent of Newly Issued Corporate Bonds)¹

	Before Crisis 1995-1996 Average	1997	After Crisis 1998-199 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 Bonds
(As a Percent of Newly Issued Corporate Bonds) ¹**

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 Bonds
(As a Percent of Newly Issued Corporate Bonds) ¹**

	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: Jantarapavech (2001), Table 24.

**Table 3.d Indonesia, Outstanding Corporate Bonds
(As a Percent of Total Corporate Bond Issues)¹**

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

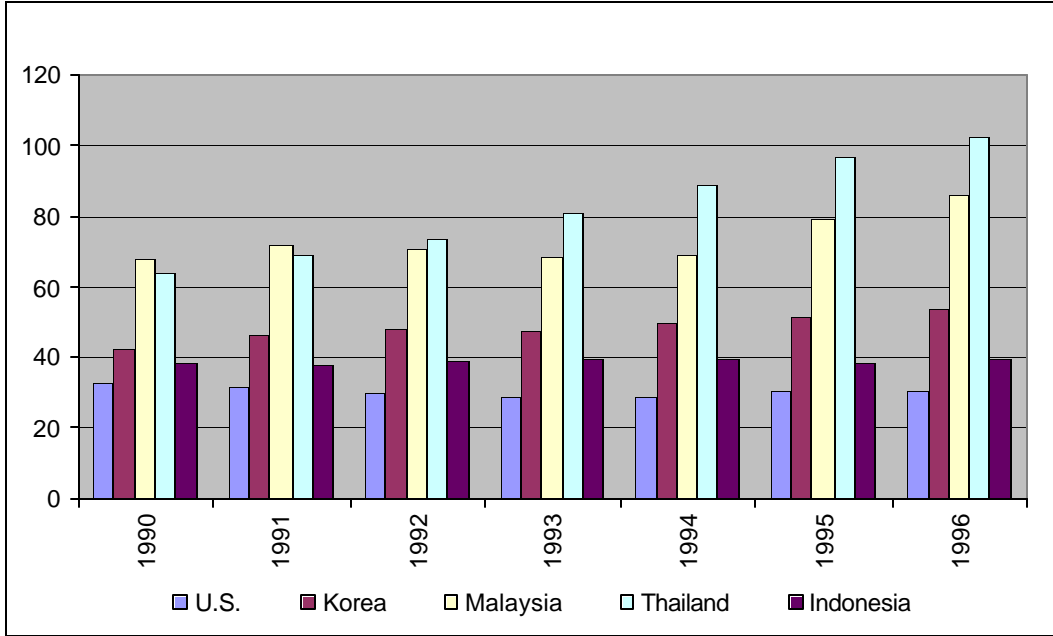
Source: Shin (2001); Hamid and Abidin; Jantaraprapavech (2001);and, Shidiq and Suprodjo (2001)

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

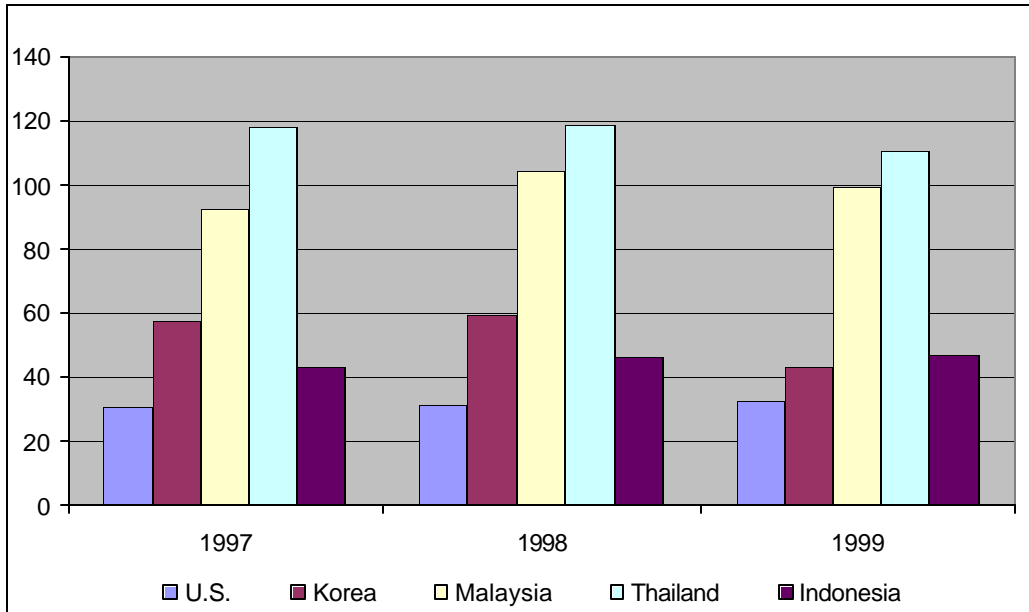
Source: Jantaraprapavech (2001)

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



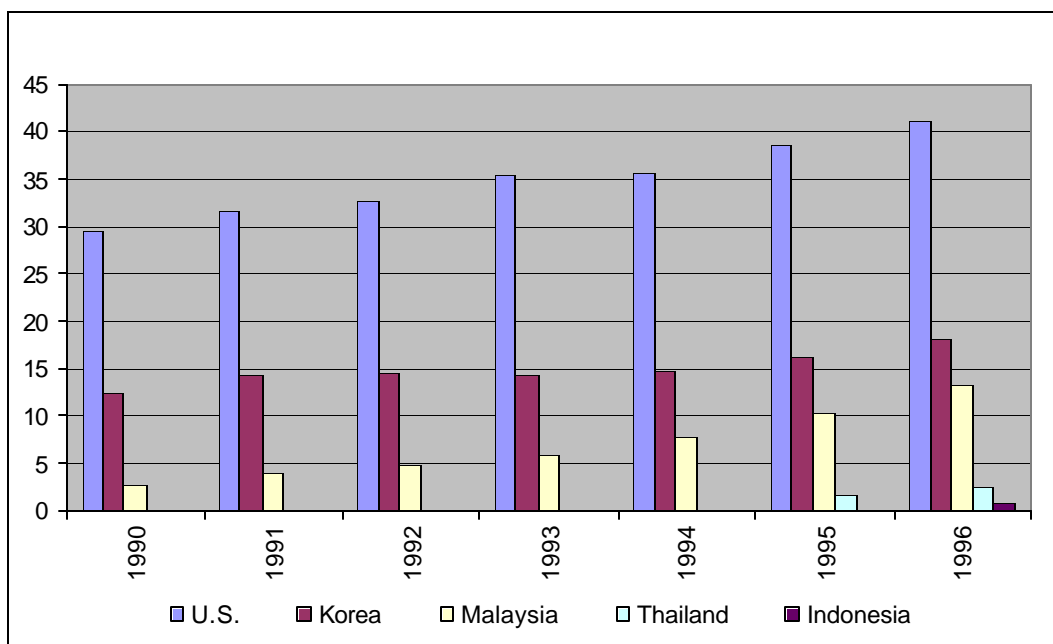
Source: DRI Asia Database, IFS April 2001.

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



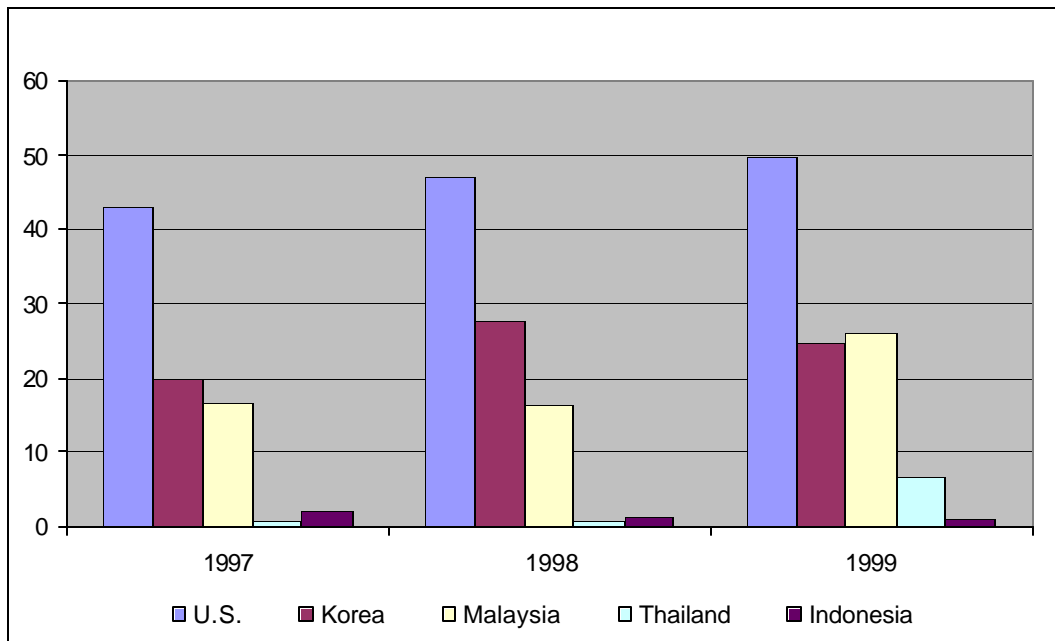
Source: DRI Asia Database, IFS April 2001.

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



Source: Shin (2001); Hamid and Abidin; Jantaraprapavech (2001);and, Shidiq and Suprodjo (2001)

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



Source: : Shin (2001); Hamid and Abidin; Jantaraprapavech (2001);and, Shidiq and Suprodjo (2001)

Chart 5. Intermediate Financial Structure in Asia

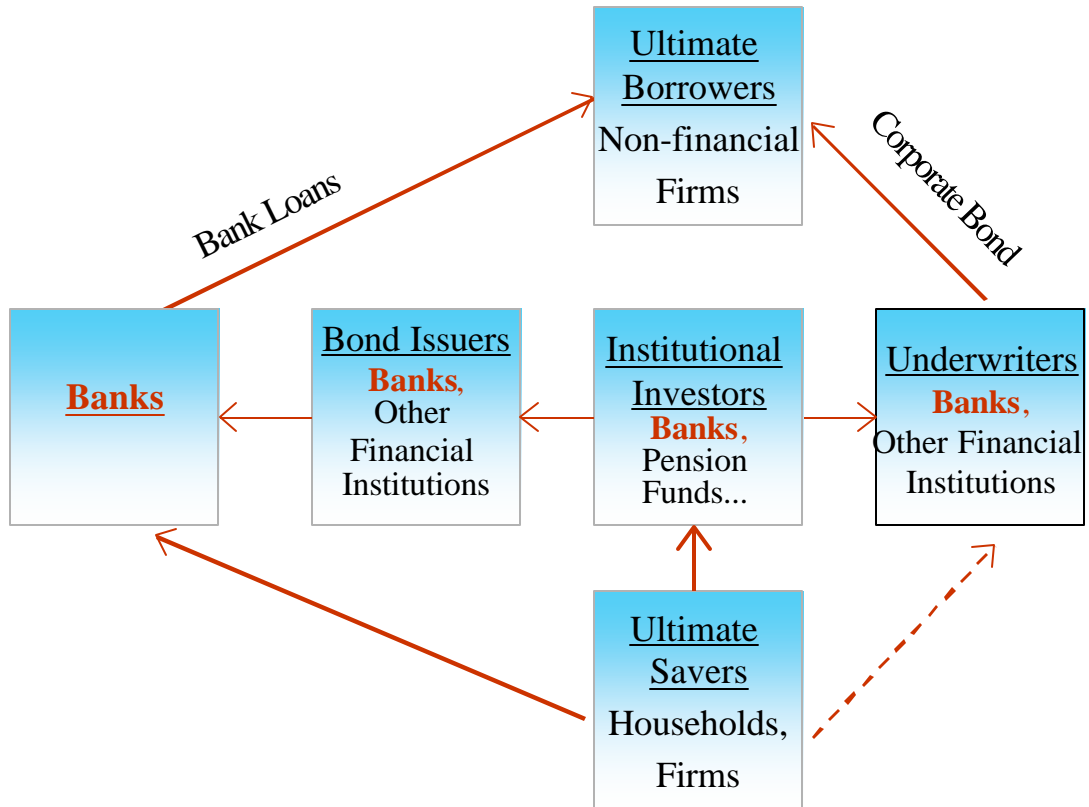


Chart 6. Development Stages of Financial Structure

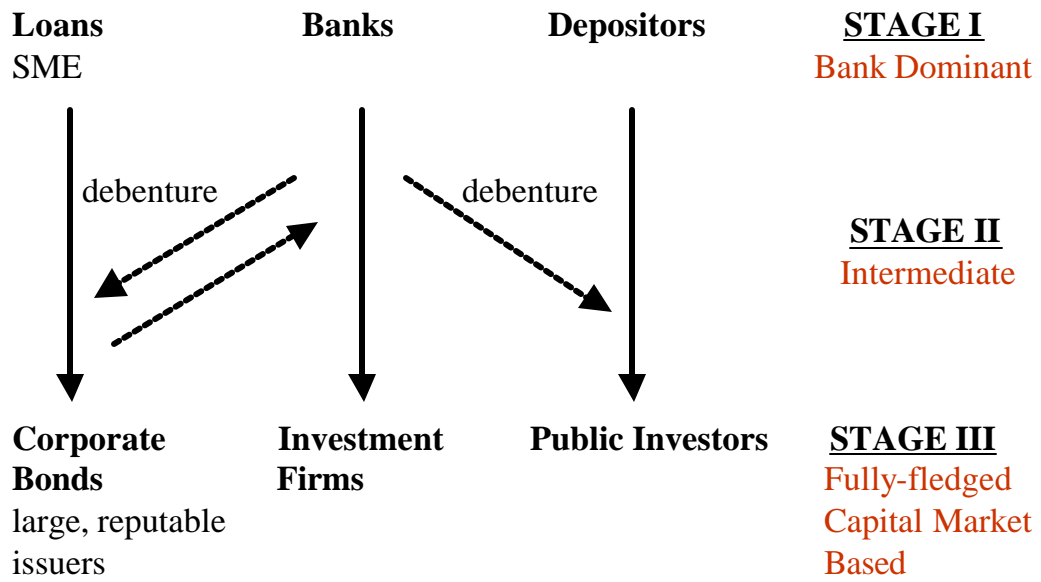
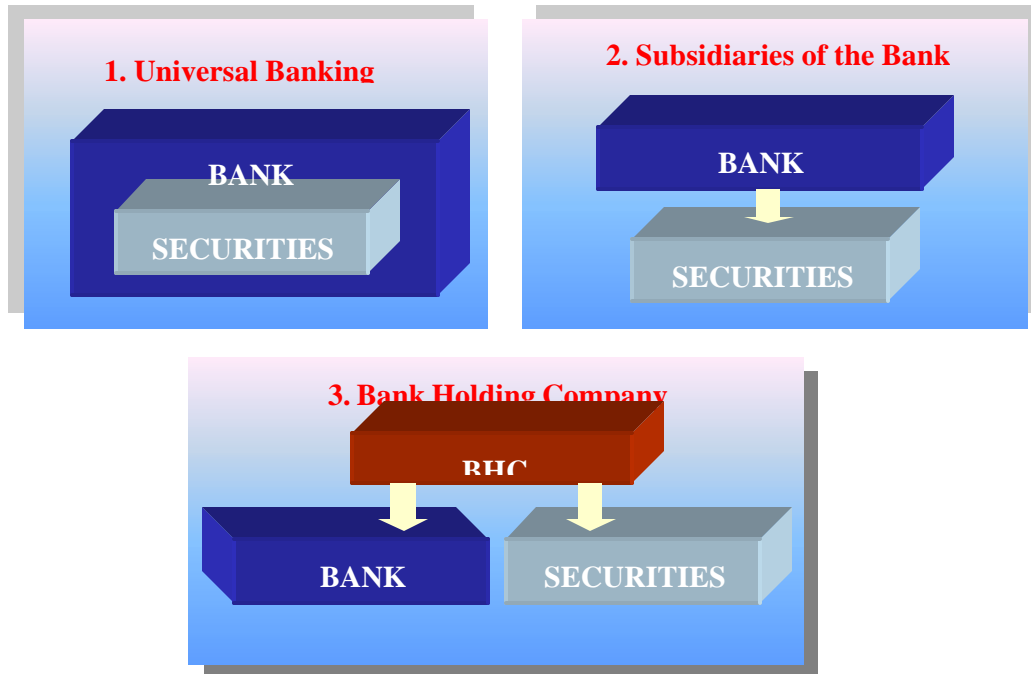


Chart 7. Organizational Forms of the Intermediate Financial Structure



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