

# **Towards a Sound and Stable Financial System in Korea: Revisited**

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## **Towards a Sound and Stable Financial System in Korea: Revisited**

Since the 1997 crisis, it has been widely argued that the financial system in Korea should shift towards a market-based. Observing experiences of developed countries, Korea can not but complying these international standards to give impetus to economic growth. Previous studies, however, suggest that the primary source of economic growth is the development of overall financial system.

When the current status of financial system in Korea is investigated, the followings are observed. First, the market sector has continuously grown for last 20 years by replacing the trading sector rather than the banking sector. This is consistent with the argument that the development of overall financial system matters. Second, the banking sector has caused the economic growth whereas the market sector has absorbed shocks in economic or financial system. Thus, it is practical to make the banking sector play significant roles during the transformation towards a market-based system. Third, the growth of banking sector would have bigger impact on the economic growth than that of the market sector would. Moreover, in Korea, the growth of banking sector would precede the growth of market sector.

From these evaluations, it is recommendable for Korea to shift gradually towards a market-based in company with solidifying her banking system, which is one of crucial infrastructures for the successful transition. The reckless imitation of market-based practices, without infrastructures prepared properly, may deteriorate economic growth.

*Keywords:* bank-based, market-based, path dependency, institutional complementarity

*JEL Classification:* E44, G10, G20

## **I. Introduction**

Financial economists have debated comparative merits of bank-based and market-based financial systems for over a century. The primary question is about which system is superior in financing the expansion of existing firms, in promoting the establishment of new firms, as well as in improving the efficiency of allocating capital.

The evaluation on which system could foster economic growth better has taken a new turn as economic situations evolve over time. The evidence of advantages that banks have over markets has centered on economic prosperity in Germany and Japan at 1980's. On the other hand, comparative merits of markets have been emphasized from experiences of the US and UK at 1990's.

Results from previous empirical studies can be summarized as follows even though it is unlikely that they can capture all the theoretically relevant nuances in the organization of financial markets. First, the choice of a bank- or a market-base system does not affect the growth of an economy. There is no significant differential in economic growth between bank- and market-based countries. It is the overall development of finance that affects the economic growth. Second, the choice of a bank- or a market-base system per se does not improve firms' access to external funding. The level of overall financial development, not the type of financial system, has a significant impact on the ability of firms to raise external capital. Third, investor

protection in common law countries tends to be stronger than in civil law countries. A market-based system is more consistent with common law countries, even though either bank or market is more developed in countries which are well equipped with legal systems for investor protection. Fourth, a country needs to transform its financial system as her economy evolves if she intends to sustain her growth. Broadly speaking, a market-based may help a country improve the efficiency in capital allocation and give the impetus to the growth driven by high technology.

The implication from previous works is that the bank-based versus market-based debate is of less importance. It is more important to improve the ability of overall financial system to ameliorate information and transaction costs, not whether banks or markets provide these services (Levine, 1997). Furthermore, banks and markets might act as complements in providing financial services (Boyd and Smith, 1998; Huybens and Smith, 1999).

Most countries, however, are under pressure to shift towards market-based systems as the global integration among financial markets accelerates. Both Japan and Germany, which had maintained bank-based systems for a long time, recently started to shift towards market-based ones. Korea also has followed this trend since 1990's, with it as a momentum that capital market was opened to foreign investors. When assessed by the gradual rise of direct financing, the degree to which Korean system is comparatively market-based has deepened since the 1997 crisis.

It is controversial, however, to say that security markets have successfully taken

the place of banks in Korea, when we look at the observation that Korean security markets do not ameliorate information asymmetry for lack of infrastructures. Indeed, Kosdaq market is so fragile to experience collapses and transactions in bond market have been suspended often. After 2002 when the bankruptcy of Daewoo business group led the direct financing to shrink severely, the portion of indirect financing broke through the level before the crisis.

The size of indirect funding implies that Korean system recurs towards a bank-based. But it is not evident that Korean banks successfully play their genuine roles. The Proponents of bank-based system claim that banks could promote economic growth. Korean banks, however, have sought short-term profits with the consequence that relationship banking activities have dwindled. In addition, Korean banks tend to reallocate funds from loans to securities, and from corporate loans to household loans. These patterns prevail as the market principle is emphasized in the course of restructuring.

Roughly speaking, the attempt for Korea to transform her financial system seems to fail at this moment. Our paper tries to figure out the reason why the transformation works well in Korea even though the shift towards market-based system is regarded as a global standard. We focus on the path-dependency and institutional complementarity, which implies that Korea needs to follow the path that is complementary with existing systems. Therefore, a desirable financial system for Korea could be designed and implemented successfully only when it is the result

based on current Korean system.

For this, we investigate changes which have been observed in Korea financial system since 1980's. The remainder of this paper is organized as follows. The next section reviews stylized findings on financial systems. In section 3 we derive implications from experiences in developed countries. Section 4 evaluates the current status of Korean system. Section 5 suggests the direction for Korea to follow. Section 6 concludes.

## **II. Comparative Financial Systems: A Survey**

The relative development of banks versus markets varies considerably across countries. According to studies on comparative merits of bank-based and market-based financial systems, Germany and Japan have bank-based systems whereas the US and the UK have market-based ones.

It is quite controversial whether bank-based or market-based systems are better for promoting long-run economic growth. A number of papers are dealing with this issue. Many economists have highlighted that bank-based systems are superior to mobilize capital, to identify good projects, to monitor managers, and to manage risk. In particular, it is argued that bank-based systems are better at the early stages of economic development when institutional environments are weak. In contrast, advantages of markets are emphasized from standpoints of risk management, information dissemination, corporate control, and capital allocation, which capital markets provide financial services to facilitate.

We briefly review these analyses to get insights for Korean financial system in this section, even though it is difficult to draw broad conclusions about comparative merits of bank-based and market-based ones.

### **1. Theoretical Debates**

## **A. Bank-based view**

The bank-based view highlights positive roles of banks. First, banks can resolve agency problem occurred in the course of capital allocation. Information asymmetry is relieved because banks could prevent firms from cheating on creditors by inducing firms to reveal private information, which is more difficult to be done through atomistic markets.

Second, individual investors are more willing to acquire information under a bank-based system. It is not profitable to acquire information under fully developed markets since information in public is relieved too quickly. Banks mitigate the incentive problem since they try to maintain long-run relationships with firms by concealing information for a while.

Third, banks more effectively provide external resources to new and innovative activities that require staged financing. Banks could credibly commit themselves to supplying firms with additional funds as projects develop.

The bank-based view also points out comparative shortcomings of a market-based system. First, investors are not willing to exert rigorous corporate control under liquid markets. Investors lose the incentive to exercise strict corporate control as markets develop because they may sell their shares inexpensively under liquid markets. It is also difficult to carry out hostile takeovers through stock markets due to free riding among investors (Grossman and Hart, 1980).

Second, a market-based system may create a myopic climate among investors.

The short-termism may gain power during the process of project selection when the information asymmetry between insiders and outsiders is severe. Investors are not willing to provide funds to firms when they take into account that managers tend to avoid risky but profitable projects (Stultz, 2001). Hence, a market-based system is likely to impede selecting profitable but risky projects.

### **B. Market-based view**

Advantages of markets as follows are emphasized in the literature. First, liquid markets could reflect diverse opinions on new technologies in prices. Investors are willing to acquire news from various sources under a market-based because they could make profits from informed trading.

Second, it is less probable that over- or under-investment occurs because funds are allocated by price mechanism under a market-based system.

Third, liquid markets could foster new establishments because funds invested on projects may be recovered through markets.

Proponents of the market-based view also stress that markets will reduce the inefficiency inherent in banking system. First, powerful banks might stymie innovation in the course of their attempts to extract informational rents. Close bank-firm ties protect incumbent firms from competing with new entrants. Large banks might hinder the formation of new establishments by taking excessive rents from new entrants.

Second, powerful banks are likely to collude with firm managers when few regulatory restrictions are imposed on their activities. The colluded behaviors against other creditors may impede efficient corporate governance by deteriorating competition.

Third, it is more probable under a bank-based that investment decisions fail since they are not made on price signals. Banks might continue to supply funds for unprofitable projects as well as to avoid financing new profitable projects.

### **C. Financial services view**

The financial services view stresses that financial services are fully consistent with either a bank-based or a market-based. Conceptually, financial contracts, markets, and intermediaries arise to ameliorate market imperfections. It is by providing financial services more or less effectively that different financial systems could promote economic growth to a greater or lesser degree.

The financial services view places the analytical spotlight on how to make banks or markets function better. The primary issue is not whether a financial system is dominated by banks or by markets, but how an environment in which banks or markets provide sound financial services could be created. Any system which successfully eases savings mobilization would promote economic growth. Thus, it is the overall financial development that affects the efficiency of capital allocation and economic growth.

Banks and markets might act as complements in providing financial services - assessing potential investment opportunities, exerting corporate control, facilitating risk management and enhancing liquidity. According to Levine (2000), firms could raise funds more easily through banks when markets are more developed. It is because markets reduce banks' rent-seeking behaviors by providing firms with an alternative way of external funding. Entrepreneurs' incentive to undertake risky but valuable projects may also grow as returns from projects are realized early through markets. In addition, markets may have comparative advantages over banks, which are good at expanding existing business, in supporting new technologies.

#### **D. Legal system view**

The legal system view emphasizes that financial development is significantly affected by legal systems. It is the overall quality of financial services, which in turn is determined by legal systems, that improves the efficiency of capital allocation and economic growth. Thus, laws and enforcement mechanisms are a more useful way to distinguish financial systems than focusing on whether countries are bank- or market-based.

Legal systems to protect outside investors effectively enforce contracts and thereby facilitate external financing, formation of new establishments. Conceptually, finance is merely a set of contracts which can be made more or less effectively depending on legal rights. From the perspective, both markets and banks could

operate amicably only when enforcement mechanisms function well.

Related literature identifies two broad legal traditions that pertain to this matters: civil law and common law. The civil legal tradition, which originates from Roman law, uses statutes and comprehensive codes as a primary means of ordering legal material. It relies heavily on legal scholars to ascertain and formulate its rules. Legal scholars typically identify three currently common families of laws within the civil law tradition: French, German, and Scandinavian.

The common law family includes the law of England and those laws modeled on English law. The common law is formed by judges who have to resolve specific disputes. Precedents from judicial decisions, as opposed to contributions by scholars, shape common law. Common law has spread to British colonies, including the US, Canada, Australia, India, and many other countries.

Laporta et al(1998) examine legal rules covering protection of corporate shareholders and creditors, the origin of these rules, and the quality of their enforcement in 49 countries. The results show that common law countries generally have the strongest, and French civil law countries the weakest, legal protections of investors, with German and Scandinavian civil law countries located in the middle. They also find that concentration of ownership of shares in the largest public companies is negatively related to investor protections, consistent with the hypothesis that small, diversified shareholders are unlikely to be important in countries that fail to protect their rights.

Ergungor(2002) provides an explanation tied to legal traditions about why common-law countries are market-based and civil-law countries bank-based. He makes an important point: legal tradition and prevailing economic conditions jointly determine whether a country is bank- or market-based. The legal tradition is reflected in the way laws are made and applied rather than in specific rules on investor protection.

Civil-law courts have been less effective in resolving conflicts than common-law courts because civil-law judges traditionally refrain from interpreting the codes and creating new rules. In a civil-law environment, where potential conflicts between borrowers and individual lenders inhibit the development of markets because the courts are unable to penalize defrauding borrowers, it is shown that banks can induce borrowers to honor their obligations by threatening to withhold services that only banks can provide. In other words, banks emerge as the primary contract enforcers in economies where courts are imperfect.

On the other hand, firms prefer markets as a source of funds in common-law countries where courts are sufficiently effective in solving the conflicts between firms and individual investors. It is because bank shareholders must be compensated for the costs related to the agency problems that are likely to arise in a large institution.

Ergungor(2002) also provides evidence related to the three main predictions of the model: (i) common-law countries provide better investor protection than civil-law countries, (ii) creditor protection is relatively less important in civil-law countries

where banks can resolve conflicts without court intervention, (iii) legal rules that protect creditors promote the growth of banks in common-law countries.

## **2. Empirical Results**

Demirgüç-Kunt and Levine(2001) used data on a cross-section of up to 150 countries to illustrate how financial systems differ around the world. In providing the systematic examination of financial structure and economic development, they claim that financial sector development tends to be greater at higher income levels. As countries become richer, banks, other financial intermediaries and stock markets all get larger, more active and more efficient.

In addition, they analyze differences in financial structure across different income groups. In higher income countries stock markets become more active and more efficient relative to banks. It means that financial systems tend to be more market-based in higher income countries.

They also argue that countries with a common law tradition tend to be more market-based, even after controlling for income. Common law countries are featured with strong protection for shareholder rights, good accounting standards, low levels of corruption and no explicit deposit insurance when determinants of financial structure including legal, regulatory, tax and macroeconomic factors are analyzed. On the contrary, countries with a French civil law tradition tend to have underdeveloped

financial systems in general, even after controlling for income. Civil law countries are characterized by poor protection of shareholder and creditor rights, poor contract enforcement, high levels of corruption, poor accounting standards, heavily restricted banking systems, and high inflation.

Demirgüç-Kunt and Maksimovic(2002) investigate how firms' access to external funding varies depending on whether financial systems are market-based or bank-based. Using firm-level data for 40 countries, they compute the proportion of firms in each country relying on external finance and examine how that proportion differs across financial systems. Their initial finding is that the proportion of firms that grow at rates that cannot be self-financed is positively related to the development of both security markets and banking system.

Next, they find that the development of a country's legal systems predicts access to external funding. Their results show that the effects of financial development on firms' growth is closely tied to the level of the country's contracting environment. Only the development of financial systems within that predicted by contracting environments are significantly related to the ability of firms to obtain external funding. They find no evidence that firms' access to external funding is predicted by several proxies for relative development of markets to banks. The development of a bank- or market-based financial system per se does not affect access to external funding.

Finally, they find that markets and banks affect firms' ability to access to external funding in different ways, especially at lower levels of financial development.

The development of both could improve access to external funding if predicted by the contracting environment. But the development of markets is more related to long-term financing whereas the development of banks is more related to the availability of short-term financing. Thus, for developing countries the relative development of markets to banks may have implications for which firms and which projects obtain external funding.

Levine(2000) explores the relationship between economic performance and financial structure - the degree to which a country's financial system is bank- or market-based. He indicates, after assessing competing theoretical views of financial structure, that although overall financial development is robustly linked with economic growth, there is no support for either the bank- or market-based view.

Beck and Levine(2002) examine which of bank- or market-based financial systems are better at financing the expansion of industries that depend heavily on external funding, facilitating the formation of new establishments, and improving the efficiency of capital allocation across industries. They find evidence for neither the bank- nor market-based hypothesis. While legal system efficiency and overall financial development boost industry growth, new establishment formation, and efficient capital allocation, having a bank- or market-based system per se does not seem to matter much.

Since the results confirm the financial services or legal system view, the results send a strong message to policy makers. There is no evidence for using policy tools to

tip the playing field in favor of banks or markets. Instead policy maker should focus on legal reforms that foster the development of both financial intermediaries and markets.

Wurgler(2000) explores whether financial markets improve the allocation of capital. Across 65 countries, those with developed financial sectors increase investment more in their growing industries, and decrease investment more in their declining industries, than those with undeveloped financial sectors. The efficiency of capital allocation is negatively correlated with the extent of state ownership in the economy, positively correlated with the amount of firm-specific information in domestic stock returns, and positively correlated with the legal protection of minority investors. In particular, strong minority investor rights appear to curb overinvestment in declining industries.

### **3. Summary**

Results from previous studies can be summarized as follows even though it is unlikely that they can capture all the theoretically relevant nuances in the organization of financial markets or legal systems.

1) The choice of a bank- or a market-base system does not affect the growth of an economy. There is no significant differential in economic growth between bank- and market-based countries. It is the overall development of finance that affects the

economic growth.

2) The choice of a bank- or a market-base system per se does not improve firms' access to external funding. The level of overall financial development, not the type of financial system, has a significant impact on the ability of firms to raise external capital.

3) Investor protection in common law countries tends to be stronger than in civil law countries. A market-based system is more consistent with common law countries, even though either banks or markets is more developed in countries which are well equipped with legal systems for investor protection.

4) A country needs to transform its financial system as her economy evolves if she intends to sustain her growth. Broadly speaking, a market-based may help a country improve the efficiency in capital allocation and give the impetus to the growth driven by high technology.

### **III. Convergence of Financial Systems**

Financial systems of countries over the world seem to converge to a certain direction even though they still show some variations due to the influence of different historical backgrounds. The convergence is fueled whenever it is regarded as a particular type could elevate the competitive power of an economy. The global integration of financial markets stimulates countries, which want to take competitive edges, to import advanced practices from developed countries.

#### **1. Tendency of Convergence**

Japanese financial system has been characterized by reciprocal equity investments between firms, higher leverage of firms and the absence of hostile takeovers. These traits have contrasted with those of American system which is identified by the high portion of minority shareholders in ownership structure of firms, lower leverage of firms and the presence of hostile takeovers.

This contrast, however, is not accurate any longer, even though some aspects still hold in Japan as of now. Reciprocal equity investments still represent a main portion of ownership structure of Japanese firms. In addition, hostile takeovers are still not working in Japan. However, the role of banks has dwindled in external funding of firms, since Japanese firms do not have to rely on banks as they generate large cash

flows. And the opening and deregulation of financial markets enable Japanese firms to raise funds from other sources.

In Germany where banks have been major players in both corporate finance and governance, the relative importance of stock market increased recently. At the end of 2000, the total market value of German stocks amounted to 67.6% of GDP, as compared to 184% in the UK, 153 % in the US. Since 1990's, however, the number of publicly traded German companies and the total market capitalization of German stock markets have significantly increased. It is thanks to policies for restoring stock markets, like the opening of the Neuer market. The level of German laws for investor protection and transparency has been elevated to that of international standards, as a consequence of legal reforms including a series of financial market promotion act since 1990's (Nowak, 2001).

The opening of the Neuer Market in 1997 is the most important event showing the development of German stock markets. Even though Neuer market has been stagnant due to the plunge of stock prices after the recession of German economy, it listed a lot of German companies on the basis of regulations for investor protection and transparency. Following the opening of Neuer market, Deutsche Telecom was listed in stock market in 1996 and a hostile takeover of Mannesmann by Vodafone was accomplished in 2000.

There are pieces of empirical evidence that German financial system is no longer regarded as a bank-based. Wojcik(2001) shows, after analyzing the ownership

structure of German firms using data from 1997 to 2000, that the concentration of ownership is greatly relieved and that reciprocal equity investments among German firms start to liquidate. He also finds that the role of financial institutions including banks has shrunken in Germany.

As opposed to transitions from a bank- to a market-base system in Japan and Germany, institutional investors start to participate in the management of firms through relational investing activities in the US. The transition was fueled by the recognition that the agency problem caused by the extreme ownership dispersion led to the lack of competitiveness of American firms in 1980's. Glass-Steagall act, which had made the role of banks in financial markets weakened before, was revised to allow the merger of banking with security business. Also hostile takeovers, which is one of features to characterize the American system, have not happened in the US since 1990's (Bebchuk et al., 2002).

## **2. Obstacles to Convergence**

Even though the global integration of financial markets forces every country to import financial practices from developed countries, both path dependency and institutional complementarity make it difficult for all systems to converge to a certain type.

The institutional characteristics of a financial system exhibit path dependency.

Initial conditions, which are determined by historical accidents or policy designs, can set an economy down a particular path. Following the path, efficiency considerations favor the addition of new institutions whose contribution to the system reflects not just their own incremental addition to output, but also the resulting increase in output of existing institutions to which the new institutions are complementary. For this reason, the development path evolves at each stage by selecting new institutions that are complementary with preexisting institutions, at the expense of alternatives which lack this attribute.

A complementary system is difficult to change piecemeal since the financial system's development tends to be driven, domino-like, by the linking of complementary institutions, even though institutional form is still driven by the initial starting point. As a result, complementarity has an ominous downside like leverage. When external economic changes counsel altering one institutional attribute, the change may cause the productivity of the entire system to decline dramatically as other attributes are selected to make good use of the now altered attribute. It may cause problems under some circumstances.

The policy to develop stock markets in Europe countries including Germany is a typical case in which a financial system has not changed as wanted due to path dependency and institutional complementarity. Germany has not made a big success in its attempt to foster venture capital that can expedite the growth of the economy. Even though stock markets were somewhat developed, complementary institutions,

which include venture capital companies, investment bankers experienced in early-stage companies, and entrepreneurs were not set up in Germany.

### **3. Implications**

The rapid change of environments since 1990's compels financial systems over the world to converge towards market-based ones. As financial markets integrate globally, institutional differentials across countries have vanished gradually. International standards which mostly reflect features of American or English system are imported into almost all countries. Typically, both Germany and Japan which have been bank-based for a long time are also incorporating securitization, deregulation and market principle into their financial systems. The influence of international standards became so powerful due to the belief that the US enjoyed the prosperity of economy at 1990's relying on these foundation. It is obvious that it is so hard for Korea to go against such a rush by sticking to a bank-based system.

Many Korean economists consent that solidifying markets could contribute to restructuring Korean bank-based system. Active stock markets could accommodate the growth driven by high technologies which banks do not have the capacity to support. However, the immediate imitation of market-based practices from developed countries would not help Korea because of path dependency and institutional complementarity. It is urgent to mature infrastructures which are prerequisite before

market-based components are implanted. Legal systems, under which financial contracts can be lawfully enforced, are indispensable for external funding through markets.

## **IV. Evaluating the Status of Korean Financial System**

For a long time, Korea has maintained a bank-based system in which Korean government has often taken part in the management of banks. Banks have allocated funds across sectors in accordance with government directives, which enabled Korea to intensify economic growth. But, it is unavoidable for Korean financial system to shift towards a market-based as the degree to which Korean economy are open to foreigners has deepened. At this moment, pieces of evidence about whether Korean financial system is dominated by banks or markets are indecisive.

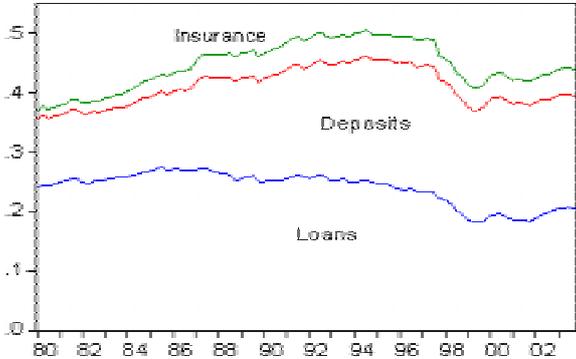
Previous empirical studies focus on the size of bank assets or market capitalization as indicators to show the type of financial system. Since those figures reflect limited aspects of a whole system, we look up all asset categories to get a broad picture about how Korean system has evolved over time. For our study, transaction categories on financial assets and liabilities table are classified into three group: banking sector, market sector, and trading sector. The banking sector contains Loans(LOA), Deposits(DEP), and Insurance(INS). The market sector consists of Long-term Securities(LTS), Stocks(STO), and Short-term Securities(STS). The trading sector includes Trading Credits(TRA), Foreign Claims(FOR), and Currency(CUR).

Proportions of each asset to total assets over the period years 1980-2003 are plotted in Figure 1. At the end of year 2003, 43.8% share of total assets is taken by the

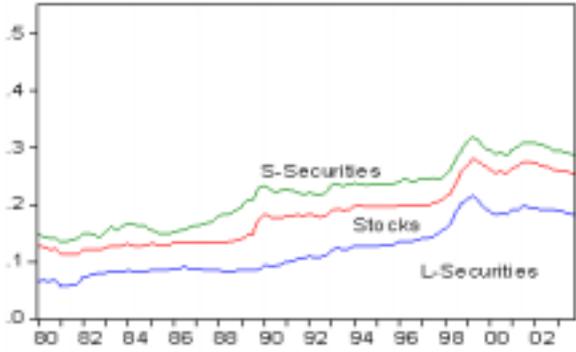
banking sector, 28.6% by the market sector, and 7.1% by the trading sector. In terms of trends over time, the market sector has increased by 13.7% points from 14.9% at the beginning. The banking sector, which stayed around 37.1% at the beginning, has gone up to 50.6% at the 3/4 quarter of year 1994 but has dropped back to 43.8%. The trading sector has steadily decreased from 25.9% at the beginning, which has been driven by the decrease of FOR.

<Figure 1> Ratios of Transaction Category to Total Assets

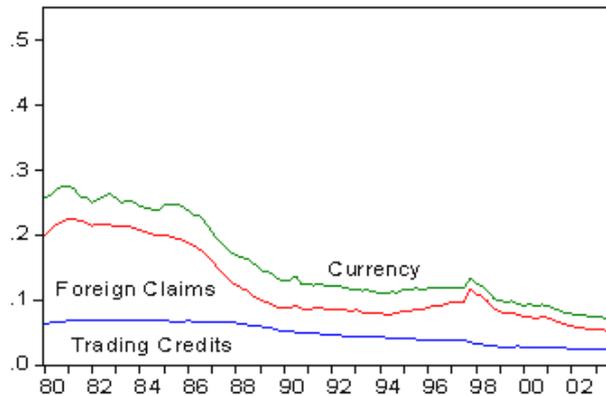
A. Banking Sector



B. Market Sector



### C. Trading Sector



Data: Bank of Korea, Flow of Funds

## 1. Changes in Flows of Fund

In this subsection, the flow of funds in Korea is analyzed in order to shed light on how Korean financial system has changed over time, especially through the crisis. ANOVA(Analysis of Variance) is employed to test the significance of changes in the relative size of financial assets. When the null hypothesis that samples in two periods are drawn from the same population (or different populations with the same mean) is rejected, observed changes are regarded as significant.

For the ratio of each asset to total assets, a balanced one-way ANOVA is performed in order to compare the means of three periods: Period I (years 1992-1995), Period II (years 1996-1999), and Period III (years 2000-2003). Pairs of the means of

three periods, each of which contains 16 quarterly observations, are compared to test the hypothesis that two means are the same, against the alternative that they are not the same. A simple t-test of one group mean against another is performed at the significance level 0.05.

### **A. Funding of business sector**

The argument that Korean system is shifting towards a market-based is based on the observation that the proportion of direct financing through capital market had continuously increased since the crisis. As shown in Table 2, external funding channels other than bank loans (i.e., long-term securities, stocks, government loans, and foreign direct investments) have been expanded through the crisis (Period II). On the other hand, loans by financial institutions (with short-term securities, equities other than stocks, and trade credits) have significantly decreased over the same period, although its portion of total liabilities is still the largest 31.97%. These changes imply, indeed, that the business sector does not rely on banks as much as before. It is worth to note that proportions of long-term securities and stocks have risen while that of short-term securities has dropped. Long-term securities and stocks take 35% share which is larger than that of loans by financial institutions at Period III.

The proportion of direct financing, however, dropped abruptly at the time Daewoo business group was bankrupt and remains low since then. Reflecting it, the proportion of indirect financing through banks in 2002 rose back to the level before

the crisis. It implies that Korean system is not quite ready to operate as a genuine market-based because no financial market is recovered from the crisis.

<Table 2> Financial Liabilities of Business Sector (unit: %)

	1992-1995	1996-1999	2000-2003
Short-term securities	6.28	8.01	3.28
Long-term securities	15.74	19.60	18.76
Stocks	12.28	11.74	16.91
Loans by financial institutions	37.69	34.89	31.97
Government loans	0.84	0.74	1.26
Equities other than stocks	4.29	2.87	3.45
Trade credits	9.28	7.78	7.12
Foreign direct investments	1.28	1.96	4.12
Other foreign claims & debts	2.94	4.03	3.27
Miscellaneous	9.38	8.38	9.87

Data: Bank of Korea, Flow of Funds

Even worse, it is not clear in Korea whether stock markets could provide firms with stable long-term funds. The size of external funding through security markets has varied a lot from year to year. For instance, the proportion of funding through stock markets has concentrated around boom periods. Neither are bond markets regarded as stable channels of external funding, since they have frequently been paralyzed due to the lack of devices that alleviate adverse selection.

## **B. Asset allocation of individual sector**

As shown in Table 3, cash inflows to financial institutions also confirm the recurrence of Korean system towards a bank-based. The proportion of bank deposits to total financial assets held by individuals has increased continuously since the crisis. All other assets except life insurance, on the other hand, has significantly decreased through the crisis (Period II). The increase of proportions of non-bank assets implies that customers regard banks more reliable than markets after they have experienced the crisis.

<Table 3> Financial Assets of Individual Sector (unit: %)

	1992-1995	1996-1999	2000-2003
Currency & Transferable deposits	3.68	2.59	2.84
Other deposits	50.05	53.92	58.12
Life insurance & Pension funds	17.41	17.74	18.49
Short-term securities	1.58	0.89	0.41
Long-term securities	12.30	13.07	9.36
Stocks	8.51	6.65	6.53
Equities other than stocks	2.84	2.20	1.77
Miscellaneous	3.63	2.95	2.49

Data: Bank of Korea, Flow of Funds

### C. Intermediation of financial sector

Investment patterns of financial intermediaries indicate that Korean banks are not carrying out their genuine functions such as information providing through long-

term relationships with corporations and inter-temporal risk sharing. Products of the market sector (i.e. long-term securities, equities other than stocks, and foreign exchange holdings) have significantly increased through the crisis whereas products of the banking and trading sectors (i.e. currency, stocks, loans, and foreign direct investments) have significantly decreased during Period II.

A couple of things need to be noted. First, as shown in Table 4, Korean financial intermediaries have reallocated their assets from loans to long-term securities since the crisis. Second, the shrinkage of banks' unique roles in Korea is confirmed by the pattern that business loans has been replaced by household and housing loans. Third, collateral loans have taken the place of credit loans after the crisis.

The change in liabilities of financial sector points out an interesting aspect of flow of funds. Traditional channels of inflows towards financial business (i.e., currency, other deposits, loans, and life insurance) have lost their share over time while inflows from market (i.e., short-term securities, long-term securities, and stocks) have gained their share. Together with the tendency of increasing investment on long-term securities by financial intermediaries, this feature implies that financial companies do not intermediate capital flows directly towards business sectors any longer. Rather capital flows stemming from surplus agents (individuals) tend to flow towards deficit agents (companies) though both banks and markets in sequence.

<Table 4> Financial Assets of Financial Sector (unit: %)

	1992-1995	1996-1999	2000-2003
Currency & Transferable deposits	2.13	1.26	1.02
Other deposits	3.05	3.79	3.38
Short-term securities	5.91	6.87	5.82
Long-term securities	13.94	19.75	24.52
Stocks	6.39	4.44	4.36
Loans by financial institutions	52.36	44.21	38.18
Equities other than stocks	0.09	0.13	0.26
Foreign exchange holdings	2.59	3.45	6.49
Foreign direct investments	0.08	0.12	0.06
Other foreign claims & debts	2.12	3.78	2.29
Miscellaneous	11.34	12.21	13.63

Data: Bank of Korea, Flow of Funds

<Table 5> Financial Liabilities of Financial Sector (unit: %)

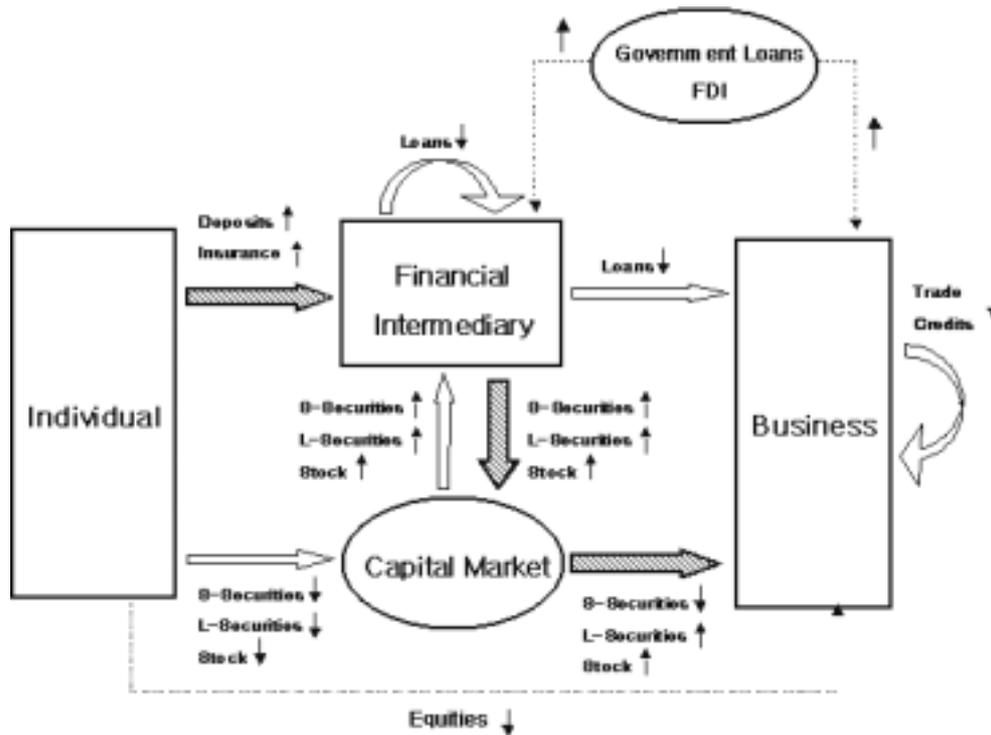
	1992-1995	1996-1999	2000-2003
Currency & Transferable deposits	7.04	4.22	3.71
Other deposits	42.44	41.88	37.97
Life insurance & Pension funds	9.36	8.52	7.99
Short-term securities	3.73	2.94	4.74
Long-term securities	13.44	18.48	22.47
Stocks	2.17	2.01	3.15
Loans by financial institutions	3.86	2.33	2.22
Government loans	1.87	2.54	2.90
Equities other than stocks	0.83	0.71	0.69
Foreign direct investments	0.11	0.18	0.29
Other foreign claims & debts	3.21	4.32	1.61
Miscellaneous	11.94	11.87	12.26

Data: Bank of Korea, Flow of Funds

#### **D. Summary: A broad picture of flow of funds**

The purpose of a financial system is to channel funds from agents with surpluses to agents with deficits. In the traditional literature there have been two approaches to analyzing this process. The first is to consider how agents interact through financial markets. The second looks at the operation of financial intermediaries such as banks and insurance companies. Traditionally, the financial system could be neatly bifurcated in this way. Rich households and large firms used the equity and bond markets, while less wealthy households and medium and small firms used banks, insurance companies and other financial institutions. However, the change in the ownership of corporate equities illustrates that it is no longer possible to consider the role of financial markets and financial institutions separately. Rather than intermediating directly between households and firms, financial institutions have increasingly come to intermediate between households and markets, on the one hand, and between firms and markets, on the other. This makes it necessary to consider the financial system as an irreducible whole.

<Figure 2> Changes in Flow of Funds



Data: Bank of Korea, Flow of funds

Note: Arrows in the figure represent the significant increase/decrease of ratios at Period(III), compared with values at Period(I).

Results of ANOVA is summarized in Figure 2. First, individuals have invested more money on products of financial intermediaries than on products of markets because the financial crisis made individuals to strongly prefer safe and reliable assets. Second, companies have expanded the proportion of direct funding relative to indirect funding. This reversal has been triggered by the severe contraction of bank loans right after the crisis. Third, financial intermediaries have allocated their funds towards products of markets rather than companies. This feature is accompanied by the

accumulation of excess financial assets which may lead to the decoupling of financial market from the real economy.

All together, funds from surplus agents flow towards deficit agents through banks and markets subsequently. It implies that Korean financial system is dominated by neither banks nor markets. Two sectors, each of which has been treated as a substitute for the other in conventional debates, have been integrated at least in Korea as economy develops. The complementarity between them seems to be enforced in that they pull together to mobilize capital. For this reason, financial services view may be more useful for discussions about a sound and stable financial system in Korea. It is not necessary to make Korean system dominated by either banks or markets. The primary task for Korea is to foster an environment in which banks or markets could provide sound financial services.

## **2. Causality between Financial Sector and Economic Growth**

In terms of the size of financial assets, it is clear that the overall financial system has deepened in Korea over time. It is ambiguous, however, whether Korean system has transformed into a market-based since the market sector has taken the place of the trading sector, not of the banking sector. It seems that the market sector has developed along with the bank sector in Korea, which may be inconsistent with the impression that Korean system came to be dominated by markets.

One of the primary questions is the direction of causation and the channels between the growth of financial sector and the growth of economy. There appears to be a wide range of empirical evidence that growth and financial structure are positively correlated. There is little agreement as to the direction of causation and the channels by which each influences the other. Correlated changes in terms of growth rates do not necessarily imply causation in any meaningful sense.

Granger(1969) approach is employed to see how much of the current growth rate of Gross Domestic Products(GDP) can be explained by its past growth rates. Then whether adding lagged growth rates of financial assets can improve the explanation is tested. The growth rate of GDP is determined to be Granger-caused by the growth rate of financial assets if the growth rate of financial assets helps in the prediction of the growth rate of GDP, or equivalently if the coefficients on the lagged growth rate of financial assets are statistically significant.

Table 1 shows results of pairwise Granger-causality tests between the growth rate of GDP and the growth rate of each financial asset category. The significance of each test is determined at 5% level. For instance, we cannot reject the hypothesis that the growth rate of GDP does not Granger cause the growth rate of total assets. But we do reject the hypothesis that the growth rate of total assets does not Granger cause the growth rate of GDP. It implies one-way causation from the growth rate of financial assets to the growth rate of GDP. It means that the growth of financial assets provides precedence and information content even though it does not by itself indicate

causality in the more common sense.

As for the banking sector, we cannot reject the hypothesis that the growth rate of GDP does not Granger cause growth rates of each of DEP and LOA. But we do reject the hypothesis that the growth rate of each of DEP, LOA, and INS does not Granger cause the growth rate of GDP. As a result, the growth of DEP and LOA provide significant precedence and information content to explain the GDP growth.

As for the trading sector, results are similar. We cannot reject the hypothesis that the growth rate of GDP does not Granger cause growth rates of each of TRA, FOR and CUR. But we do reject the hypothesis that the growth rate of each of TRA and CUR does not Granger cause the growth rate of GDP. Hence, the growth of TRA and CUR provide significant precedence and information content to explain the GDP growth.

As for the market sector, Granger causality runs the other way. We do reject the hypothesis that the growth rate of GDP does not Granger cause the growth rate of each of LTS, STO and STS. But we do reject the hypothesis that the growth rate of each of them does not Granger cause the growth rate of GDP. It implies that all of them do not provide significant precedence and information content to explain the GDP growth.

<Table 1> Pairwise Granger Causality Tests

Causality		F-statistics
Total Assets	GDP	3.3167 (0.0143)
Banking Sector		
Other Deposits	GDP	3.8553 (0.0064)
Loans by financial institutions	GDP	3.2249 (0.0165)
Life insurance & Pension funds	GDP	2.7414 (0.0340)
Market Sector		
Long-term securities	← GDP	2.3456 (0.0614)
Stocks	← GDP	2.3919 (0.0573)
Short-term securities	GDP	3.5518 (0.0101)
Trading Sector		
Trade credits	GDP	3.7012 (0.0081)
Foreign Claims	GDP	1.2329 (0.3034)
Currency & Transferable deposits	GDP	3.0589 (0.0211)

Notes: p-value in parentheses, obs.=91. (→) means a significant causality at 5% (10%) level.

Granger causality runs two-way from the growth rate of GDP to the growth rate of Insurance, and the other way.

All together, it can be concluded that the growth of financial system has led the growth of economy in Korea. In particular, the banking sector plays a more important role than the others regarding to the prediction of economic growth. It is consistent with Korea's long-standing practice of funneling financial resources to firms through banks. This cursory conclusion is closer to the implication of bank-based view.

### **3. Path-dependency of Korean Financial System**

In this subsection, we investigate the path dependency in Korean financial system. We assume that institutional characteristics of a financial system can be described by a vector error correction(VEC) model, in which the degree of dependency is measured by equilibrium restorability.

#### **A. VEC-model**

The model used in this paper estimates stable long-run cointegrating vectors among GDP and financial assets. Financial assets are classified into three groups as before -- DEP, LOA, INS for Banking sector; LTS, STO, STS for Market sector; and TRA, FOR, CUR for Trading sector. All variables are logged but non-seasonally adjusted. Cointegrating vectors can be considered to be long-run relations. We assume that there exist three long-run relations: GDP-Banking, GDP-Market, and GDP-Trading.

The Johansen-Juselius(1990) methodology is used to estimate the long-run

cointegrating vectors from a VEC-model of the form

$$\Delta X_t = AB'X_{t-1} + C(L)\Delta X_t + D'Z_t \quad (0.1)$$

where  $X_t = (gdp_t, x_{B,t}, x_{M,t}, x_{T,t})$  is a vector of endogenous variables in logged form.

$x_{B,t}$  consists of assets for Banking sector,  $x_{M,t}$  for Market sector, and  $x_{T,t}$  for

Trading sector such as

$$x_{B,t} = (dep_t, loa_t, ins_t) \quad (0.2)$$

$$x_{M,t} = (lts_t, sto_t, sts_t) \quad (0.3)$$

$$x_{T,t} = (tra_t, for_t, cur_t) \quad (0.4)$$

$C(L)$  is a matrix of parameters for a second-order lag process.  $Z_t$  is a matrix of seasonal dummies, and  $D$  is the matrix of parameters associated with seasonal dummies.

The  $A = (\alpha_B', \alpha_M', \alpha_T')$  is a matrix containing three error correction coefficient vectors  $\alpha_i$ , each of which measures the speed at which the variables in the system adjust to restore the corresponding long-run relationship. The  $B = (\beta_B', \beta_M', \beta_T')$  is a matrix made up of three cointegrating vector  $\beta_i$  which represents an equilibrium path for long-run economic relationship. The cointegrating relation

$$y_{B,t} = \beta_B' X_t \quad (0.5)$$

captures a disequilibrium error deviated from equilibrium path between GDP and Banking sector. Likewise,  $y_{M,t}$  ( $y_{T,t}$ ) corresponds to Market sector (Trading sector), respectively. If the economy stays on an equilibrium path, then the followings hold.

$$y_{i,t} = 0 \quad \text{for all } i \quad (0.6)$$

To identify three cointegrating relationships, we impose restrictions on  $B$  such

as

$$\beta_B = (1, \beta_{B1}, \beta_{B2}, \beta_{B3}, 0, 0, 0, 0, 0, 0)' \quad (0.7)$$

$$\beta_M = (1, 0, 0, 0, \beta_{M1}, \beta_{M2}, \beta_{M3}, 0, 0, 0)' \quad (0.8)$$

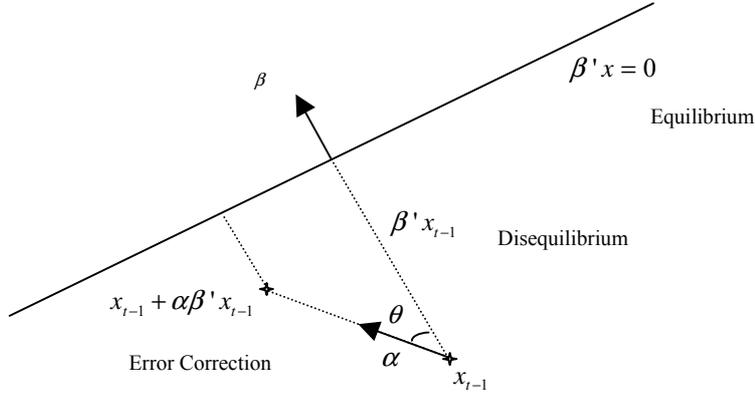
$$\beta_T = (1, 0, 0, 0, 0, 0, 0, \beta_{T1}, \beta_{T2}, \beta_{T3})' \quad (0.9)$$

Now, (0.1) can be rewritten as

$$\begin{aligned} \Delta X_t &= \alpha_{B,t} y_{t-1} + \alpha_{M,t} y_{t-1} + \alpha_{T,t} y_{t-1} + C(L) \Delta X_t + D'Z_t \\ &= \alpha_{B,t} \beta_B X_{t-1} + \alpha_{M,t} \beta_M X_{t-1} + \alpha_{T,t} \beta_T X_{t-1} + C(L) \Delta X_t + D'Z_t \end{aligned} \quad (0.10)$$

The model (0.10) is an error-correction model in that deviations  $y_{i,t}$  from long-run relations among growth rates of financial assets are assumed to be corrected by error correction coefficient  $\alpha_i$  in the long run. For instance, the relation  $\beta_B$  is considered as an underlying economic relation between economic growth and Banking sector growth, and assume that agents react to a disequilibrium error  $y_{B,t}$  through the adjustment coefficient  $\alpha_B$  to restore equilibrium; that is, they satisfy the economic relation.

<Figure 3> Equilibrium Restoration Mechanism



We focus three aspects to interpret estimates of VECM. First, we check whether our VEC-model works properly. For this, the condition under which equilibrium error decreases over time

$$|B'(X_{t-1} + AB'X_{t-1})| < |B'X_{t-1}| \quad (0.11)$$

should hold. And it can be shown that the followings

$$-2 < \alpha_i' \beta_i < 0 \quad \text{for all } i = B, M, T \quad (0.12)$$

are sufficient for (0.11) to hold.

Second, we check  $|\alpha_{ij}|$  to measure the degree by which j-th financial asset is exogenous to i-th long-run relationship. The test of weak exogeneity j-th variable of  $X_i$  for i-th relation determines whether  $\alpha_{ij} = 0$ . Weak exogeneity means that there is no information about  $B$  in the marginal model or that the variables  $X_{j,t}$  do not react to a disequilibrium.

Third, we evaluate the strength of equilibrium restorability by

$$k_i = -\frac{(\alpha_i, \beta_i)}{\|\alpha_i, \beta_i\|} \quad \text{for all } i = B, M, T \quad (0.13)$$

where  $(a, b)$  represents the inner product of two vectors  $a$  and  $b$ , and  $\|a\|$  means the norm from the origin. Note that  $(\alpha_i, \beta_i) < 0$  holds from the error correction condition.

## B. Results

The stability of economic relations which are assumed between economic

growth and banking sector, market sector, and trading sector, are tested by cointegration tests. The results are shown in Table 6. Both Trace test and Max-eigenvalue test indicates more than one cointegrating equations at the 0.05 level as for each of  $x_{B,t}$ ,  $x_{M,t}$ , and  $x_{T,t}$ . It implies that there exist a stable economic relation between economic growth and each sector in the long run.

<Table 6> Cointegration rank tests

Rank	$\lambda_{trace}$	P-value	$\lambda_{max}$	P-value
$x_{B,t}$	66.411	0.0004	31.879	0.0131
	34.532	0.0132	17.309	0.1579
$x_{M,t}$	62.459	0.0012	27.207	0.0558
	35.252	0.0106	22.518	0.0317
$x_{T,t}$	62.498	0.0012	34.482	0.0056
	28.017	0.0791	16.246	0.2108

Note: MacKinnon-Haug-Michelis (1999) p-values

The cointegrating relationships estimated from VEC-model are as follows. As for the relation with Banking sector,

$$y_{B,t} = gdp_t - 0.3663dep_t - 0.9133loa_t + 0.2369ins_t + 2.3074 \tag{0.14}$$

(-5.7650)    (-8.0864)    (5.3542)

As for the relation with Market sector,

$$y_{M,t} = gdp_t - 0.2400lts_t + 1.1358sto_t - 0.6093sts_t + 10.8119 \quad (0.15)$$

(-10.5703) (5.9966) (-3.9045)

As for the relation with Trading sector,

$$y_{T,t} = gdp_t + 0.6762tra_t + 0.3168for_t - 0.7710cur_t - 13.5396 \quad (0.16)$$

(2.6596) (3.3542) (-4.7010)

Next, each of estimated cointegrating relation satisfies the condition under which the error correction towards corresponding equilibrium path works properly (See Table 7). It implies that economic relations postulated by estimated cointegrating vectors absorb disequilibrium errors to restore an economic equilibrium.

<Table 7> Feasibility of Error Correction

	$y_{B,t}$	$y_{M,t}$	$y_{T,t}$
$\alpha_i' \beta_i$	-0.5745	-0.4585	-0.1729

Next, market sector is most endogenous to our VEC-model in that the weak exogeneity measured by  $|\alpha_{ij}|$  appears the smallest. As shown Table 8, error correction coefficients of cointegrating relations  $y_{B,t}$ ,  $y_{M,t}$ , and  $y_{T,t}$  in equations for  $\Delta x_{M,t}$  are larger than in equations for  $\Delta x_{B,t}$  or  $\Delta x_{T,t}$ . It implies that the growth rates  $\Delta x_{M,t}$  of market sector do react to disequilibrium more sensitively.

<Table 8> Weak Exogeneity

	$y_{B,t}$	$y_{M,t}$	$y_{T,t}$
$\Delta gdp_t$	0.5659	0.0324	0.1835
$\Delta dep_t$	0.1216	0.0117	0.0136
$\Delta loa_t$	0.1009	0.0163	0.0085
$\Delta ins_t$	0.1648	0.0097	0.0316
$\Delta lts_t$	0.2329	0.1172	0.1635
$\Delta sto_t$	0.1209	0.0788	0.1823
$\Delta sts_t$	0.6668	0.0907	0.0217
$\Delta tra_t$	0.0188	0.0079	0.0080
$\Delta for_t$	0.7284	0.0641	0.0237
$\Delta cur_t$	0.3033	0.0185	0.0030

Last, the economic growth has a strong relation with the growth of Banking sector, Trading sector, and Market sector. The relative strength of these relations can be measured by estimated equilibrium restorability of VEC-model as shown in Table 9. Disequilibrium error is adjusted at triple speed towards the equilibrium path  $y_{B,t} = 0$  relevant to Banking sector, compared with the adjustment speed towards other paths  $y_{M,t} = 0$  or  $y_{T,t} = 0$ . It can be said that Korean financial system is bank-based in that the relation between economic growth and banking sector is more robust against economic shocks.

<Table 9> Equilibrium restorability

	$y_{B,t}$	$y_{M,t}$	$y_{T,t}$
$k$	0.2838	0.0544	0.0804

## **V. Designing a Sound System in Korea**

### **1. Reasons to Shift towards the Market-based System**

According to studies on comparative merits of financial systems, any well developed financial system positively influences economic growth. It is relatively unimportant whether overall financial development is achieved through banks or markets. Rather, the legal systems play a leading role in promoting financial services and thereby determining the level of growth. The legal protection of minority rights as well as the efficient enforcement of contracts are critical for financial development.

It is inevitable, however, that Korea would continuously shift towards the market-based system for the following reasons. First, the global integration among financial markets over the world will force Korea to import a market-based practices. Korean banks are required to meet international business standards if they are to boost their credit standing and thereby get higher credit ratings from international agencies. The experience from developed countries confirms that it is inevitable for an economy to follow global trend to sustain its growth.

Second, a market-based system would help Korea bring up high technologies including information communication and life science. Stock prices tend to reflect more efficiently information about business prospects when the ability of banks to evaluate the profitability of projects is limited due to diverse information as an

economy advances, as observed in Korea.

Third, the transition towards a market-based system would contribute to make Korean banking system successfully restructured by resulting in more efficient capital allocation. A well developed capital market would stabilize banking system because Korean banks are released from taking risk exposure led by maturity mismatch when firms can fund their long-term capital through security markets. This aspect may have critical implications in Korea since Korean banks have operated as a major channel for long-term funding.

## **2. Concerns for a Successful Transformation**

Steps to accelerate the transition towards the market-based system makes no success in Korea. The gradual rise of direct financing since the 1997 crisis was considered as an evidence for a successful transition. The Daewoo group bankruptcy and "Buy Korea" boom, however, undermined the confidence of investors on security markets so that indirect financing resurged up to the level before the crisis. More significantly, the lack of financial infrastructures has led to transaction suspensions in both Kosdaq and bond market. All together, the current status of financial markets in Korean is not sound enough to alleviate information asymmetry.

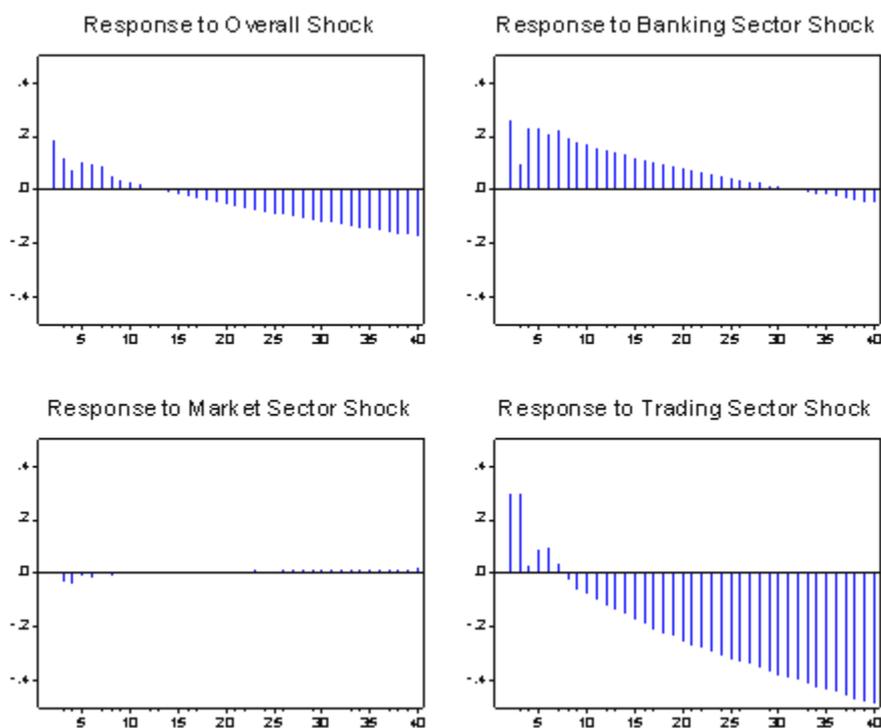
From the perspective of path dependency and institutional complementarity, Korea still has the bank-based system although it is hard to evaluate Korean system as

a genuine bank-based. It is clear that Korean banks do not satisfactorily play their unique roles -- i.e. monitoring firms, producing private information, and maintaining long-term relationships. But, the following impulse-response analysis provides some evidence that Korean system is subject to the path dependency and institutional complementarity towards the bank-based system.

A shock to one of financial assets not only directly affects itself but is also transmitted to all of the other assets and GDP through the dynamic structure of economy. An impulse response function of VECM traces the effect of a one-time shock to one of financial assets on current and future values of GDP. Four types of shocks are designed: overall shock, banking sector shock, market sector shock, and trading sector shock. For instance, positive one unit shock to DEP, LOA, and INS is applied simultaneously as for the banking sector shock: a third shock to each category. Other three shocks are specified in similar ways.

Figure 4 shows the response of GDP growth rate to four types of impulses. All types of shocks except market sector shock have positive impact on economic growth in the short run, while the long-run effect turns around to be negative over time. The response to market sector shock goes the other way: negative in the short run but positive in the long run. The magnitude of response of economic growth is in the order of overall, trading sector, banking sector, and market sector shock.

<Figure 4> Response of GDP to Increase of Financial Assets



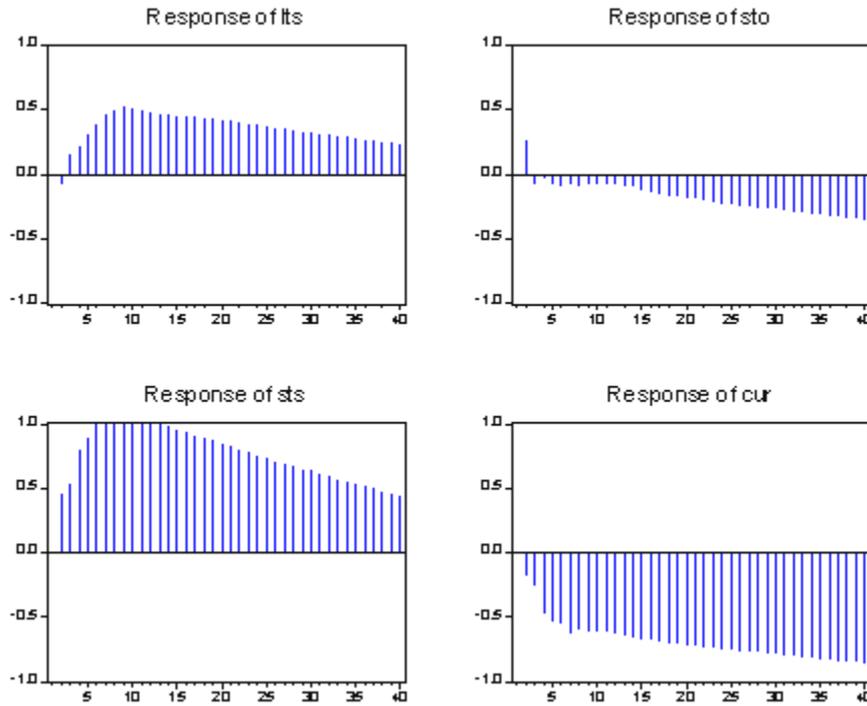
As a result, the growth of banking sector would be superior to the growth of other sectors in that an expansion of banking sector is likely to have a long-lasting positive effect on the economic growth. The growth of trading sector asks the economy to bear the negative effect as time passes although it may lead larger enhancement of economic growth in the short run. The market sector shock has little impact on the economic growth.

One of the important issues to design a sound and stable financial system is whether the banking sector and the market sector are complementing or substituting

each other. It is observed that the market sector becomes more important as the economy grows over time. The question is whether the growing importance of the market sector is at the expense of the banking sector or not. As the financial services view asserts, the banking sector and the market sector might act as complements in providing financial services: assessing potential investment opportunities, exerting corporate control, facilitating risk management and enhancing liquidity. Or it might hold, as pointed out in Allen and Gale (2001), that some services by intermediaries is ruled out by competition from financial markets.

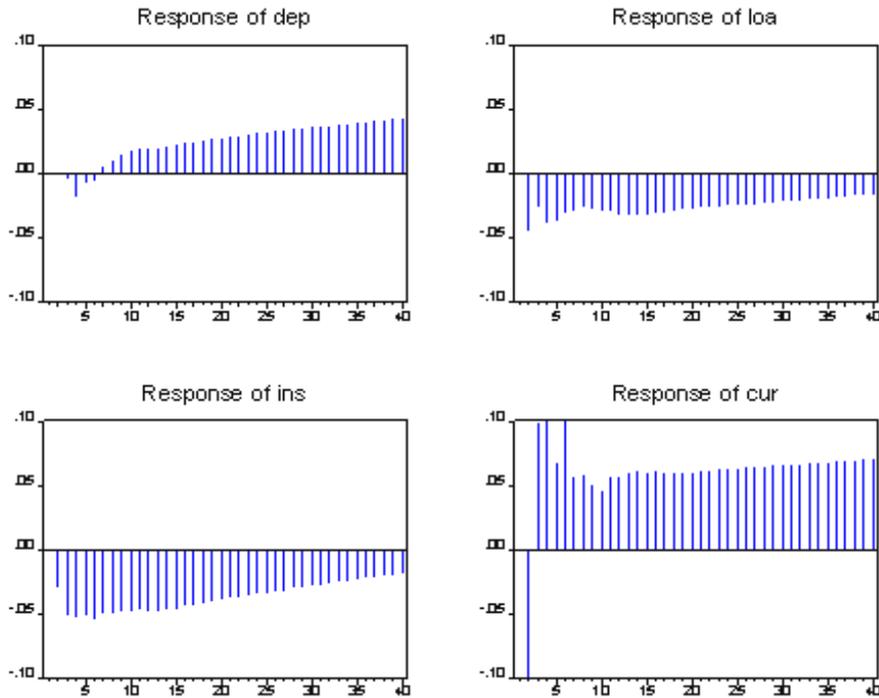
Figure 5 shows responses of market sector to a banking sector shock in Korean economy. When the banking sector increases by one positive shock (or DEP, LOA, and INS simultaneously grow by one third positive unit), LTS and STS also increase whereas STO decreases over time. As a result, the banking sector shock is complementing the bond market but substituting the stock market. The response of CUR to a banking sector shock is also reported together For a reference.

<Figure 5> Response of Market Sector to Banking Sector Shock



As shown in Figure 6, DEP responds positively while LOA and INS respond negatively for the market sector shock by one positive unit (or LTS, STO, and STS simultaneously grow by one third positive unit). It implies that the market sector shock is complementing the borrowing of financial intermediaries but substituting the lending of financial intermediaries.

<Figure 6> Response of Banking Sector to Market Sector Shock



Overall, the growth of banking sector would drive the growth of market sector in the same direction. In contrast, the growth of market sector would drive the growth of banking sector in the opposite direction. This findings suggests that both the financial services view and Allen-Gale argument can be supported by Korean data. It might be better to pursue the growth of banking sector during the course to design a sound and stable financial system in Korea.

### 3. Strategies

Without a doubt, Korean financial system evolves towards a format which best suits Korean economy. The positive perspective might give us an impression that the current status of Korean financial system is the result of economic interactions among agents, households and firms. When the path dependency is emphasized too much, the trajectory on which Korea will move from now on might be regarded deterministic without any room for strategic intervention in market situations. The notion that a financial system transfers resources between households and firms is, however, a simplification.

Governments usually play a significant role in the operation of financial systems. In addition to their roles as borrowers or savers, governments usually play a number of other important roles. Central banks typically issue fiat money and are extensively involved in the payments system. Governments also intervene in a significant way in the financial system in order to eliminate financial crises. Central banks or some other regulatory authority are charged with regulating the banking system and other intermediaries, such as insurance companies. All together, the political system, which determines the government and its policies, is closely relevant for the financial system.

A financial system is much more than all of this. The law, typically, plays an important role in most financial systems. It determines what kinds of contracts are feasible, what kinds of governance mechanisms can be used for corporations, the restrictions that can be placed on securities and so forth. Hence, the legal system is an crucial component of a financial system so that the absence of a well-defined legal

system destroys reputation in which financial markets and institutions may operate.

Two strategies, which cannot but being implemented by government intervention and the law, are suggested to design a sound and stable financial system in Korea. First, it is asked to restore unique functions of banks. Second, it is requested to consolidate infrastructures for security markets to operate properly on.

### **A. Solidification of Banking**

When it is considered that banks are complementary with markets, Korean banking system needs to be solidified for the successful transition towards a market-based. The transition could be achieved in smooth water when the banking system is stable because banks do not only supply funds for firms but also provide payment settlement services for non-bank institutions who are important market participants. Financial markets will be flourishing when information about firms is produced sufficiently by banks (Hahm et al, 1999).

The participation of commercial banks in investment banking would give an impetus to the fortification of banks in Korea. If banks could internalize the function of markets through universal banking, side effects during the transition period may be alleviated to a certain extent. Indeed, the benefit from a balanced development between banks and markets has been observed in Germany. French banks also played the role of market makers successfully during the transition. The implication is that a gradual shift together with the solidification of banks, rather than the reckless import

of market-based practices from developed countries, is likely to be beneficial for Korea.

Path dependency is another rationale that Korea needs urgently to normalize banks' roles. In Korea, the government-controlled banking, which has contributed a lot to economic growth once, would raise an obstacle to the transition towards a market-based. Under the government-controlled banking, Korean banks did not have actively to intervene corporate governance or to produce information about firms. It is a paramount mission for Korea to overcome government-controlled practices if she intends to shift successfully towards a market-based system.

### **B. Consolidation of Infrastructure**

Korea needs in advance to prepare infrastructures for a market-based, if she wants to reduce the cost of transformation. The expansion of financial markets would disturb external funding of firms severely when an economy is not equipped with sound infrastructures. It is reckless for Korea to give an imitation of developed countries because she is not equipped with relevant infrastructures. Nurturing market makers (i.e. investment banks, credit rating agencies and private pension funds) is quite important as observed in the US or the UK. In addition, software infrastructures (i.e. investor protection, transparency of accounting and disclosure) are so important as hardwares.

Especially, sound legal systems are essential because financial markets can not

operate in a reasonable manner without proper protection of investors. The weak investor protection leads to the stronger tendency that stock prices are synchronized, which is more apparent in developing countries (Morck et al, 1999). Since the risk imbedded in stock trading would be high without proper protections, investors are not willing to trade even when they possess valuable information. As a result, stock prices which do not reflect those information timely are not efficient any longer.

Minority investors, for instance, are less likely to trade on their information if they doubt whether they can be protected appropriately from insiders. If outsiders are driven out of financial markets, capital allocation through financial markets can not rely on sufficient information. In order to avoid this type of market failure, it is quite crucial for Korea to take steps to correct opaque accounting as well as interest conflicts between minorities and controlling shareholders. Even though minority rights can be exercised more easily, the degree to which minority investors are protected is not that high in Korea.

With regard to disclosure system, it is recommended to strengthen disciplinary punishment against inaccurate disclosures. Korean disclosure principles, which appear similar to those of developed countries, still have lots of loopholes in operation. Steps to promote information flow from firms to investors are not effective because punishments imposed against inaccurate disclosures are so light. As for transparent accounting, it is also urgent for Korea to eradicate practices of make-up accounting which are widely routinized.

## **VI. Conclusions**

The force of global competition among financial markets over the world would compel Korea to adopt a market-based system. As observed in other countries, international standards including liberalization, competition and securitization, which basically stem from American or English practices, will put down roots in Korea as the global integration advances. The convergence towards a market-based, which is strongly enforced by global competition, would apply to Korea also. In a long-term perspective, it is inevitable for Korea to shift towards a market-based although her attempts to do so have not come to a big success until now.

Recent studies, however, show that the financial development necessarily relies on the current economic situation. Korea needs to pursue a market-based system with reservations if she is to restructure her financial system successfully. From reviewing discussions about path dependency and complementarity, two strategies are recommended to consider.

First, Korea needs to pursue the transition towards a market-based system along with consolidating banking system. It is advisable for Korea to transform her overall system gradually towards a market-based, by taking actions to make banks recover their genuine functions, if she would like to keep capital flows stable. For this, it is necessary to solidify banks as well as to nurture financial markets, following the observation that a stable banking system is complementary for operations of financial

markets. Banks can initiate development of financial markets by supplying funds for market participants and by producing information about firms.

Second, Korea needs to establish infrastructures for financial markets to operate in a smooth way. For the successful transition towards a market-based, however, it is not desirable to imitate market-based practices of developed countries without reservations. Previous studies show that attempts impetuously to expand financial markets would result in market failures for the lack of infrastructures. As for infrastructures, it is important not only to construct hardwares (like investment banks, credit rating agencies and private pension funds), but also to improve softwares (such as investor protection, transparency of accounting, and disclosure). Most of all, the legal system to protect minority rights and to enforce contracts is one of primary elements.

These strategies are not easy to implement because they involve structural changes. It takes a long time for any government to develop the financial system for its country because it should reflect the laws, regulations, process of economic development, economic structure and cultural differences of that country. Together with fundamental strategies, there exist urgent tactics to set about immediately.

First, the most urgent task to mobilize Korean financial system at this point is to bolster cooperation and compliance between financial institutions and companies. It would also be essential to support venture capital investments, mergers and acquisitions, and project financing, aside from stock acquisitions. Banks, which have

played a pivotal role in Korea, should actively promote collaboration with companies that have high growth potential and simultaneously fulfill their role of supervisors, rather than just passively avoid risk. In addition, it is necessary to enhance the function and capability of investment banks who do contribute to the development of capital markets.

Secondly, the long-term investment needs to be fostered by thorough restructuring on financial institutions and corporations in order to revitalize the growth engine of Korean economy. The growth and stability of Korean economy depends much on investors having a long-term investment horizon. This may be best accomplished through the establishment of a market principle and reinforcing compliance. Bolstering rigorous compliance standards on the market principle is one such move towards collaboration between financial and corporate sectors. It is also essential to stimulate competition in the credit risk analysis sector to reinforce the evaluation function of banks and the markets.

Thirdly, it is critical to make the balance between domestic investors and foreigners in capital markets. The growing presence of foreign capital in Korean financial system clearly has the positive effect on the stimulation of competition among financial institutions and the enhancement of their efficiency. Foreign companies are, however, reluctant to provide long-term capital to businesses because of high costs associated with acquiring information on domestic companies' credit standing. As a result, foreign capital that prioritizes short-term returns over long term

investment cannot bolster cooperations and the financial sector. It is necessary to put in practice the revised Basic Fund Management Act so that domestic investors hold larger stakes in capital markets.

Forth, without significant amounts of human capital it will not be possible for any of these components of a financial system to operate effectively. Well trained lawyers, accountants and financial professionals such as bankers are crucial for an effective financial system, as the experience of Eastern Europe demonstrates.

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