Institutional Development in the Korea Financial Sector Accompanying Globalization, and Its Economic Effects

Sept. 2003

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Ⅰ. The Background to Financial Institution-Building in Response to Globalization

Financial globalization, while it has positive effects on economic growth by reducing capital transaction costs and increasing the amount of capital available, can also raise the risks of financial instability and foreign exchange crises. With financial globalization, global diversification by international portfolio investors has expanded. Among the negative consequences of this phenomenon has been the emergence of contagion effects[1]. Especially when speculative attacks are made on a country, investors engage in herd behavior and form self-fulfilling expectations, and there is a large outflow of investment capital from that country, increasing the risk of a foreign exchange crisis. Given the existence of this tendency, maintaining a sound financial system is believed to be the most important step in reducing the negative effects on a country of financial globalization.

During Korea's dynamic pursuit of economic growth strategies from the 1960's, it selectively provided and distributed capital to the real economic sector through its financial institutions, and this led to increasing corporate debt ratios, and which translated in turn into a rising number of financial institution insolvencies. However, Korea did not possess a well-established system for maintaining and improving its financial soundness: information about financial institutions lacked transparency, the implicit government protection of depositors caused moral hazard at financial

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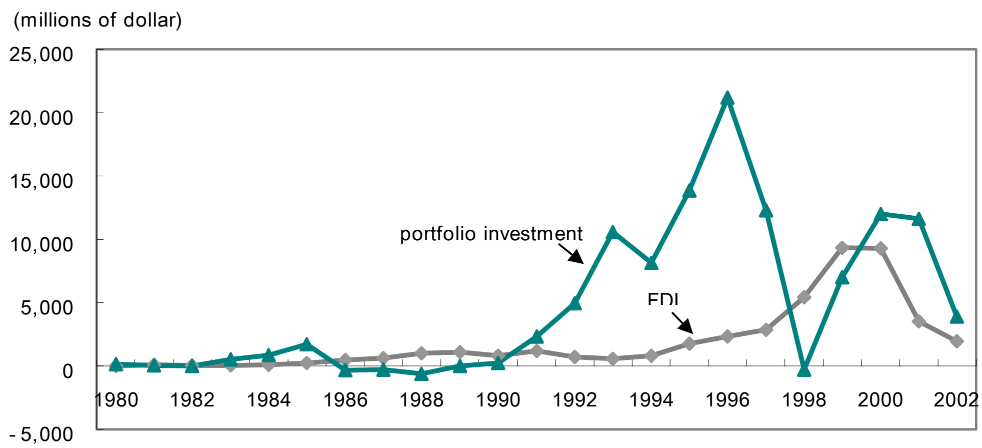
[1] A foreign exchange crisis emerging in one country creates self-fulfilling expectations of collapsing asset values on the part of international investors, which reflect the market condition and a reevaluation of existing information. Another country can then fall victim to contagion from this crisis, regardless of its own economic fundamentals. (Masson, 1998)

institutions, and financial supervision and regulation were insufficient. In this situation, a sudden large net outflow of foreign portfolio capital, which had been rapidly built up following capital account and financial liberalization in the 1990's, caused Korea to fall victim to a foreign exchange crisis in late 1997, revealing the inherent weaknesses of the Korean financial sector. When Korea turned to international financial institutions such as the IMF and the World Bank for emergency support, they demanded across-the-board financial reforms including, for example, the market exit of insolvent financial institutions and the strengthening of banking supervision. This is how the Korean government came to embark on financial restructuring with a focus on building a sound financial system.

<Figure 1> Net Capital Inflows



Source : Bank of Korea, BOP

<Table 1> Net Inflows of Foreign Capital to Stock Market

(millions of dollars)

	During 1996	1997							1998
		1~6	7	8	9	10	11	12	1~6
Net Inflows	4,373	2,174	215.2	△28.5	△365.9	△816	△724.5	323.1	2815.4

Source : Bank of Korea, BOP

Ⅱ. The Experience of Financial Institution-Building to Enhance Financial Soundness

In order to establish a sound financial system, the Korean government first laid down the foundation for a stable macroeconomic environment, by such means as ensuring the independence of its central bank, enhancing the fiscal soundness and transparency of its financial institutions, and introducing a free-floating exchange rate system. The Financial Structure Improvement Act (December 1997), aimed at simplifying the process of forcing non-viable financial institutions to exit the market, made financial institutions focus on the sound management of their business activities. Public disclosure standards were strengthened in order to ensure that the information on financial institutions was disclosed to foreign and domestic investors in a transparent manner. At the same time, the financial supervisory authorities changed their focus from regulation of the business operations of financial institutions to their prudential regulation, for example, by demanding that they achieve adequate capital ratios and asset soundness. Regular supervision was also strengthened by the introduction of prompt corrective action. In addition, the blanket deposit guarantee system was changed into a partial guarantee system, as a means of reducing moral hazard at financial institutions.

Korea’s experience of building a sound financial system can be examined in detail by discussion of the following five types of activities: 1) Establishing the Environment for Stable Macroeconomic Operations, 2) Establishing a System for Market-based Resolution of Ailing Financial Institutions, 3) Enhancing the Transparency of Financial

Institutions, 4) Setting up a Prudential Regulatory System, and 5) Improving the Deposit Guarantee System.

1. Establishing the Environment for Stable Macroeconomic Operations

If it is going to take full advantage of financial globalization, a country must also be able to respond flexibly to outside shocks caused by large outflows of foreign capital. It is therefore imperative that a country's financial system be sound, and this requires that it has a stable macroeconomic environment, including such things as an independent central bank and the legal means to promote fiscal soundness.

The Korean government revised the Bank of Korea Act in December 1997, so as to have it stipulate that the Bank of Korea is an autonomous organization and that it implements monetary policy independently. The make-up of the Monetary Policy Committee was also changed at that time, to ensure that its decisions would be neutral; the Governor of the Bank became Chairman of the Committee, and the number of members was reduced from nine to seven. Additionally, all members of the Committee are now standing members.

Since the outbreak of the financial crisis, Korea's fiscal deficit has increased as a result of interest payments made on the public funds raised for financial restructuring, and of an increase in the social welfare budget. In order to achieve the target of a balanced fiscal account before 2003, the government proposed the Special Act for Fiscal Soundness in January, 2001. This Act provided for the setting of a 3-year mid-term fiscal plan and its report to the National Assembly, as well as for strengthening the requirements for supplementary budgets and restricting the use of extra revenues. The Act, however, was never passed. In June 2001, the government decided to include not only the central government budget but also the budgets of local governments in its consolidated budget, and to begin reflecting this change from 2003, in a move to enhance fiscal transparency on a par with international standards.

As far as the exchange rate regime in Korea goes, after the change in March 1990 from the Multi-Currency Basket System to the Market Average Exchange Rate System[2], foreign exchange transactions were made within a rigid limit applied to daily exchange rate fluctuations[3], and because of this their movements failed to fully reflect the pressures for exchange rate change. As a result, there were frequent cases of foreign exchange rate misalignment and Korea fell victim to speculative attacks, which is what finally led to the crisis. In late 1997, the Korean won exchange rate rose to the upper limit of its daily fluctuation range repeatedly, bringing transactions to a halt each time. In December 1997, the Korean government completely abolished the limit on daily fluctuations and adopted a free-floating exchange rate system, allowing the won to move freely in accordance with supply and demand conditions in the market. Under the new system, the exchange rate now better reflects the economic fundamentals than it did prior to the crisis. In the event of severe exchange rate misalignment, of course, the

[2] In the Market Average Exchange Rate System, the target exchange rate for the day was set by computing the previous day's transaction volume-weighted average of the Korean won's rate against the dollar in the interbank market, and transactions were made within a limited range of fluctuation from the target rate.
[3] After introduction of the Market Average Exchange Rate System, the daily range of fluctuation was widened on seven different occasions between March 3, 1990 and November 20, 1997.

government does try to carry out smoothing operations by, for example, temporarily intervening to control foreign exchange supply and demand.

2. Establishing a System for Market-based Resolution of Ailing Financial Institutions

If non-viable financial institutions do not exit the market on time, this can create moral hazard among market participants, hampering financial system soundness. The System for Market-based Resolution of Ailing Financial Institutions is a method of eliminating causes of instability from the market and boosting market soundness by making it easier to force troubled institutions to exit.

Before the foreign exchange crisis, the belief that they were ‘too-big-to-fail’ prevented financial institutions in Korea from being forced from the market. As a result, they themselves did not do much to enhance their business soundness, while the government was also lax in its efforts to build a healthy financial industry. Instead of encouraging the exit of ailing financial institutions by allowing mergers, the government tried to keep them in the market in the name of maintaining order within the industry.

In December 1997, the Korean government greatly relaxed the regulation on mergers of financial institutions by establishing the Financial Structure Improvement Act. The legal foundation was also laid down at that time for accelerating the resolution of insolvent institutions, by strengthening laws on closure of non-viable financial institutions and on loss-sharing and capital reduction, by reviewing the bankruptcy law to find a way to accelerate the bankruptcy process, and by allowing M&As involving foreigners. When financial institutions had gone bankrupt in the past, it had been hard to operate solely on the basis of market principles, as the highest priority had been to protect the public interest. In the wake of the financial crisis, however, a market-disciplined process for removing failed institutions from the market was set up, for example, by demanding that they maintain specified BIS capital ratios. On top of this, a prompt corrective action system was introduced to help regularly monitor ailing financial institutions.

<Table 2> Resolution of Insolvent Financial Institutions

	No. of Institutions at the End of 1997(A)	No. of Institutions Resolved (1998~ 2002)					No. of Institut-ions Newly Opened	No. of Institutions at the End of 1997(A)
		License Revoked	Merger	Dissolut-ion etc.	Total (B)	Ratio (B/A)		
Banks	33	5	10	-	15	45.5	1	19
Non Banks	2,068	122	150	368	640	30.9	63	1,491
Total	2,101	127	160	368	655	31.2	64	1,510

Source: Korea Public Fund Oversight Committee

With this establishment of the legal and institutional grounds for forcing insolvent institutions to exit the market, the belief that ailing financial institutions could be forced from the market at any time has become widespread, and this in turn has become an incentive encouraging these institutions to manage their assets in a sound manner. The results of the bold drive to resolve non-viable financial institutions can be seen in Table 2 below. Between 1998 and 2002, the number of institutions exiting the market by means such as business permit cancellation, merger or dissolution was 655, comprising 15 banks and 640 non-bank institutions. This was 31.2% of the total number of financial institutions in existence as of late 1997.

3. Enhancing the Transparency of Financial Institutions

Transparent public disclosure is imperative for strengthening market discipline and improving the soundness of the financial system. By providing the market with crucial information on financial institutions' management conditions and inherent risks, such disclosure strengthens market discipline, driven by stake-holders such as shareholders, depositors and creditors, and encourages financial institutions to focus on sound and responsible management. Korea did not have well-developed public disclosure standards prior to the financial crisis. What disclosure requirements were in place at the time fell short of international standards, and waivers to such financial institutions as branches of foreign banks, merchant banking corporations, mutual savings and finance companies and investment trust management companies.

Following the financial crisis, Korea implemented a number of measures to tighten public disclosure standards and improve corporate governance at financial institutions. In October 1998, the Financial Industry Disclosure Standard was established to systematically improve management disclosure in several ways. First, the scope of institutions subject to disclosure requirements was expanded to include all financial institutions – covering the previously excluded branches of foreign banks, merchant banking corporations, mutual savings and finance companies and investment trust management companies as well. Second, management disclosure was classified into two types - regular disclosure and ad hoc disclosure[4] – with the objects of regular disclosure required to meet international accounting standards.[5] Third, the frequency with which companies were required to make regular disclosure was increased from once a year to twice a year, and for banks to four times a year. The methods of disclosure were also diversified, to include disclosure through electronic media such as the Internet. Fourth, restraints on false disclosures and those not in full faith were strengthened. Any financial institution which discloses false information or leaves out important information is required to correct this or to make new disclosure and, if necessary, can be subject to legal action. Fifth, as a means of improving confidence in management disclosure, outside auditing of financial statements was made mandatory. Closing financial statements and half-yearly provisional financial statements are now subject to full audit and review, respectively.

If public disclosure by financial institutions is to be useful, financial statements need to be trustworthy and the accounting system has therefore also been improved to meet international standards. In this context, Korea introduced the mark-to-market system in

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[4] Regular disclosure must include matters that have an important bearing on a company's management, including i) its organization and manpower, ii) its financial affairs and profit and loss, iii) its sources and uses of funds, iv) business performance indicators such as those concerning its soundness, profitability and productivity, and v) its management policy and risk management. Banks are also required to promptly disclose relevant details on such occasions as i) the occurrence of non-performing loans and financial incidents, ii) the receipt of a management improvement recommendation, demand or order, and iii) other occasions as determined by the Governor of the Financial Supervisory Service.

[5] In addition to a 55 items that banks were previously required to disclose, such as their management performance and financial situation, they must now disclose nine additional items covering such information as the size of their non-performing loans, credit rating, off-balance sheet transactions involving loans to subsidiaries and derivatives-related large losses, and the foreign currency liquidity ratio.

November 1998[6] and changed the basis for evaluating securities held by financial institutions from their book to their market value. The requirements for loan and securities valuation loss provision have also been changed, from partial provision to 100% provision in accordance with international standards.

Corporate governance at financial institutions has also been strengthened as a means of enhancing managerial transparency. In January 1997, the Outside Director System[7] was adopted for banks, by requiring them to appoint more than half of their directors from outside their organizations. As the Outside Director System alone seemed insufficient for checking the influence of powerful management, however, from January 2000 it also became mandatory that banks set up Audit Committees, with two-thirds of their members being outside directors. Banks were additionally required to set up basic rules and internal standards for the protection of their investors, and stricter observance of laws and regulations was demanded of bank managers and employees in performing their duties. At the same time, it was stipulated that a compliance officer must be appointed at each bank, to report to the Bank's Audit Committee in any case of violation of rules or internal standards.

4. Setting up a Prudential Regulatory System

With financial globalization, the Korean financial market has become exposed to outside shocks such as large inflows and outflows of foreign capital. In response to

[6] This system was first applied to all bonds included in funds launched after November 5th, 1998. From July 1st, 2000 it was applied across-the-board.
[7] When the system was first introduced, the term 'non-standing director' was used, and this was later changed to 'outside director' in December 1999, with revision of the Banking Act.

these increasing risks, the Korean government has turned away from its past focus on business operations and prices and started to focus on prudential regulation in order to manage financial institution risk. The BIS capital ratio requirements have been tightened, the asset soundness classification criteria strengthened to follow international standards, and Prompt Corrective Action introduced into the regular system for supervision of financial institutions.

(Strengthening Prudential Regulation)

In order to facilitate efficient oversight and regulation of financial institutions, their prudential regulation has been tightened.

In accordance with its agreement[8] with the IMF in December 1997, the Korean government strengthened BIS capital ratio requirements to promote the soundness of financial institutions. In 1998, first of all, financial institutions with capital ratios lower than 8% were made to improve their financial structures. From January 1999, the method for calculating this capital ratio was changed to meet international standards, for example, by having loan-loss provisions for nonperforming assets deducted from Tier 2 capital and by evaluating securities held by financial institutions at market value.

In December 1999, forward-looking criteria were introduced for evaluating the levels of credit risk to which financial institutions could be exposed in managing their assets,

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[8] In December 1997, the Korean government agreed with the IMF to make it mandatory for Korean banks to achieve a minimum 8% capital ratio, in accordance with the BIS's 'Core Principles for Effective Banking Supervision'.

in order to help prevent nonperforming loans and thus enhance institutional soundness. In addition to the details of borrowers' past financial transactions, which was the only concern of previous asset classification practices, forward-looking criteria also consider their future debt repayment capacities. Accordingly, financial institutions now evaluate each of their asset holdings in three areas – the borrower's debt repayment capacity, his degree of solvency, and his compliance with the payment schedule – and classify asset soundness in each area according to five grades - normal, precautionary, substandard, doubtful, and estimated loss. The lowest of the three area grades then becomes the final soundness level for each asset.

The requirements for loan loss provisions have also been tightened in line with the new asset soundness classifications. Financial institutions must set aside 0.5% of normal assets, 2% of precautionary assets, 20% of substandard assets, 50% of doubtful assets, and 100% of estimated loss assets as provisions against loan loss. In addition, they must maintain their own independent credit review systems, in order to enhance the accuracy and objectivity of their classifications of asset soundness and their accumulations of loan loss provisions.

(Introduction of the Prompt Corrective Action)

In April 1998, the Korean government enacted the Financial Industry Restructuring Act and introduced a prompt corrective action system, aiming at instituting regular oversight of financial institutions and thereby preventing their insolvencies. The prompt corrective action system bolsters the soundness of the financial system by facilitating both the market exits of insolvent financial institutions and the restoration of normal management at financial institutions showing signs of unsoundness.

Before introduction of the prompt corrective action system, the Korean regulatory authorities used a management improvement guidance system as their means for regular oversight of financial institutions. That system was ineffective, however, because decisions as to whether or not to take corrective action were left to the authorities, and the actions that they could take excluded such powerful options as canceling business permits and ordering management changes. Under the prompt corrective action system, action is now automatically triggered under clear and objective criteria relevant to management conditions at financial institutions, freeing the process from dependence on the authorities' discretion. The criteria used are the BIS ratios and the CAMELS[9] evaluation system results for banks and merchant banking corporations, their net operating capital for securities firms, and their solvency margin ratios for insurance companies. As recommended by the BIS and the IMF, the scope of the prompt corrective action framework embraces almost all financial institutions.

[9] This was introduced in Korea in October 1996, with the aim of ensuring objective and reasonable assessment of financial institutions' management conditions. Under this system, financial institutions are evaluated in a comprehensive and unified method, in areas such as their management capabilities, observance of legal regulations and financial conditions. Initially, banks were evaluated on the five main components of their financial positions: their capital adequacy, asset quality, management, earnings, and liquidity. Later on, one more component, "sensitivity to market risk", was added, in reflection of the importance of risk management. For foreign banks in Korea, in contrast, the ROCA ratings method is used, which evaluates the four components of risk management, operational controls, compliance and asset quality.

<Table 3> Prompt Corrective Action(In Case of Banks)

		Prompt Corrective Action		
		Management Improvement Recommendation	Management Improvement Requirement	Management Improvement Order
Enforcement Criteria	BIS ratio	Less than 8%	Less than 6%	Less than 2%
	Management Status Evaluation	‘Asset quality’ or ‘Capital adequacy’ is below 4th grade, though scores the 3rd or higher overall	Total grade is 4th or lower	-
Management Improvement Action		organizational changes, specific allowances, restrictions on entry into new areas and new investment, reduction or increase of capital, disposal of NPLs	control of deposit interest rate, replacement of senior management and external auditors, suspension from some business areas, dissolution	capital write down, suspension of top management, merger or consolidation with other financial institutions, revocation of business license
Enforcement Criteria of Above Action		If the bank fails to fully comply with this action, a Management Improvement Requirement is issued	If the bank fails to fully comply with this action, a Management Improvement Requirement is issued	If the bank fails to fully comply with this action, the FSS forces it to exit.

Source: Financial Supervisory System

5. Improving the Deposit Guarantee System

The deposit guarantee system helps maintain stability in the financial industry by preventing bank runs. It can also hamper stability in the industry, however, when it encourages financial institutions to take on too many risks and it creates moral hazard in the market by weakening depositor-driven discipline. Under a deposit guarantee system, discipline can be weakened in particular because depositors and creditors have less incentive to monitor the risk-taking of financial institutions, knowing that their deposits or claims are safely protected even if these institutions go bankrupt.

Korea’s deposit guarantee system, first introduced in 1995, was a partial guarantee system. In 1997, however, right after the financial crisis hit, it was changed to a blanket deposit guarantee system to help the resolution of ailing financial institutions[10], and its coverage was expanded to include deposits with such institutions as securities firms, insurance companies, merchant banking corporations, mutual savings and finance companies, and credit unions. These changes were effective in stabilizing the financial market, but at the same time they led to moral hazard, such as financial institutions pursuing high risk-high yield strategies and depositors trying for unreasonably high interest. It was therefore inevitable that the government would revise the enforcement decree, as it did in July 1998, to reduce the scope of the financial instruments and deposit amounts being protected. As a result of the revision, interest on deposits of more than 20 million won made after August 1998 was excluded from protection, and investment products such as RPs, CDs, and bonds issued by banks, as well as deposits made by government agencies, local authorities, the Bank of Korea, and the Financial Supervisory Service, were no longer protected.[11]

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[10] This measure helped prevent runs on several unhealthy financial institutions leading to subsequent runs on healthy banks and merchant banks. Reflecting this situation, from the second quarter of 1998, deposit-taking at banks and merchant banks recovered from its declining trend of the previous quarter, which had been caused by the market exit of five banks and 16 merchant banks. Meanwhile, the funds excluded from deposit guarantee system coverage migrated on a very large scale into fixed deposit accounts at banks or beneficiary certificates at investment trust management companies.

<u>Deposits at Selected Financial Institutions</u>

(billion won)

	During 1997	1998				
		Total	1 q	2 q	3 q	4 q
Banks	291,505	327,565	102,434	34,094	116,503	74,534
Money Trusts	201,277	-391,678	-93,795	-88,923	-176,932	-32,029
Merchant Banking Corporations	35,822	-440,025	-363,243	-124,342	18,050	29,510

Source : KDIC(2000.1)

[11] RPs were excluded from protection because depositors can get back their principal from the bond issuers even if the bond-issuing institutions go bankrupt.

Despite such measures, however, the system of incentives for both financial institutions and depositors remained distorted, and this led to another revision of the enforcement decree to return to a partial deposit guarantee system. Concerned about possible instability in the market caused by abrupt and huge capital movements, the government made it clear that a depositor's funds were guaranteed up to the very substantial amount of 50 million won per individual financial institution.

Even with the partial deposit guarantee system now in place, however, there are some tasks that remain to be carried out to prevent moral hazard at financial institutions and make sure that market principles can work. These tasks include limiting the deposit guarantee to an appropriate level, introducing premiums that are separately risk-adjusted for different financial institutions, and strengthening the principle of system beneficiaries contributing to the insurance fund. Currently in Korea, the 50 million won guarantee for each depositor is four times 2002 per capita GDP — higher both than the IMF guideline of lower than twice per capita GDP and the average level of protection in major countries. Premiums are not adjusted to take account of different risk levels at different financial institutions, either[12], while the Deposit Insurance Fund relies heavily on bond issuance rather than contributions from the beneficiary institutions (refer to Table 5).[13]

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[12] Current premiums for banks, securities firms, and other financial institutions including insurance companies and merchant banking corporations are 0.1%, 0.2% and 0.3% of their deposits, respectively.

[13] This has come about because the deposit guarantee system was recently introduced without sufficient funds having been raised, which resulted in the need for issuance of Deposit Insurance Fund Bonds, guaranteed by the government.

<Table 4> Deposit Insurance Coverage in Major Countries, 1999

	Korea(2002)	US	Canada	Germany	UK	Average of Europe	World Average
Ratios of Deposit Coverage to per capita GDP	4.0	3.2	2.1	0.8	1.4	1.6	3.0

Source : Gillian G. H. Garcia(1999)

<Table 5> Procurement of Deposit Insurance Fund

(Billion Won, %)

	1998	1999	2000	2001	2002	Total	Ratio
Contributions Remitted	2	21	329	27	13	841	0.1
Premiums	2,343	4,161	5,404	7,848	8,778	33,915	2.6
Issuance of Bonds	210,150	224,850	89,407	310,593	36,600	871,600	67.6
Borrowings (Repaid)	16,293 (9,337)	52,140 (33,870)	129,574 (9,802)	49,680 (110,196)	59,553 (3)	383,251 (163,208)	29.7

Source : KDIC, Annual Report

III. Analysis of Achievements Made in Building the Financial System

1. Effects on the Soundness of Financial Institutions

A financial system can remain sound only as long as most financial institutions in it are solvent and are expected to continue to be so, with assets exceeding liabilities.[14] The soundness or solvency of a financial institution is believed to be determined by the

[14] Refer to Lindgren, Garcia and Saal, “Bank Soundness and Macroeconomic Policy”, (1996).

adequacy of its short-term capital, its asset soundness, its profitability and its management capability. Given that the series of institution-building efforts in the financial sector in Korea since the foreign exchange crisis must presumably have directly and indirectly affected the soundness and profitability of financial institutions, in this sector we will review the changes in their management performance indicators before and after the crisis.

As of late 1997, the average BIS capital adequacy ratio of Korean banks was 7.04%. This figure increased to higher than 10% from late 1999 and reached 10.52% in late 2002, an improvement which can be attributed to the strong requirement, as a part of the financial restructuring program, that banks achieve 8% capital adequacy ratios.

<Table 6> Capital Adequacy Indicator of Commercial Banks

(%)

End of year	1995	1996	1997	1998	1999	2000	2001	2002
BIS Capital Adequacy Ratio	9.33	9.14	7.04	8.23	10.83	10.53	10.81	10.52

The performance of asset soundness indicators has improved significantly in Korea as well. With the introduction of forward-looking criteria in December 1999, Korean financial institutions began looking more closely at borrowers' debt repayment capacity and strictly controlling their credit risk. As a means of improving cash flow and future profits, moreover, they sold many of their non-performing assets to Korea Asset Management Corporation and wrote off many bad debts. Despite an overall increase in total loans in Korea, the ratio to total loans of loans overdue for three months or more and loans on which interest was not being paid dropped from 8.3% in late 1999 to 1.9%

in late 2002. The ratio of substandard and below loans to total loans also declined substantially, from 13.6%[15] in late 1999 to 2.4% in late 2002.

<Table 7> Asset Soundness Indicators of Commercial Banks

(%, hundred billion won)

At the end of year	1996	1997	1998	1999	2000	2001	2002
Total Loans(A)	2,896	3,758	2,885	3,283	3,616	3,791	4,646
Nonperforming Loans(B)	-	-	-	274	239	110	90
Loans overdue for 3 months or more	-	-	-	61	38	25	44
Non-accrual Loans	-	-	-	213	201	85	46
NPL ratio (B/A)	-	-	-	8.3	6.6	2.9	1.9
Loans classified as Substandard and Below(C)	119	227	212	446	320	126	113
Substandard	94	126	112	282	150	65	64
Doubtful	20	96	91	124	143	48	36
Estimated Loss	5	5	9	41	27	13	12
Ratio of Substandard and Below(C/A)	4.1	6.0	7.4	13.6	8.8	3.3	2.4

Source: Financial Supervisory System, Banking Statistics

Korean banks' ROA and ROE figures, their profitability indicators, which were negative immediately after the foreign exchange crisis, moved into positive territory beginning from 2001. This is in part attributable to financial institutions' efforts to reduce their non-performing assets and increase profitability. Of these two indicators, ROE rose sharply, from 3.80% in 1996 to 11.57% in 2002.

[15] The ratio of substandard and below loans to total loans rose sharply to 13.6% in 1999 because of the introduction of Forward-Looking Criteria, a more stringent standard for evaluating loan quality.

<Table 8> Profitability Indicators of Commercial Banks

(%)

	1996	1997	1998	1999	2000	2001	2002
ROA	0.26	-0.93	-3.25	-1.31	-0.57	0.76	0.59
ROE	3.80	-14.18	-52.53	-23.13	-11.90	15.88	11.67

Source: Financial Supervisory System, Banking Statistics

As detailed above, a series of measures to boost prudential regulation, such as tightening BIS capital adequacy ratio requirements, and the introductions of the prompt corrective action system in April 1998 and forward-looking criteria in December 1999, made significant contributions to improving the capital adequacy, asset soundness and profitability of Koreans banks, which in turn greatly boosted the overall soundness of the financial industry.

2. Effects on Economic Development

Having a healthier financial system with more transparent accounting and strengthened prudential regulation reduces asymmetries of information between creditors and borrowers, and this also improves financial system efficiency. Traditional theory concerning the relationship between financial industry development and economic growth suggests that financial industry growth and/or increased financial system efficiency bring down transaction costs, allow better distribution of funds and diversify risk, all of which leads to savings growth and higher efficiency in investment, and ultimately boost economic development.[16] It is therefore safe to say that institution-building efforts in the financial sector, enhance financial soundness, and increase financial system efficiency, thereby having a positive effect on economic growth.

An opposing views, however, holds that it is in fact economic growth that accelerates financial industry development, because an expanding real economy demands more financial services.[17]

In this study, we looked at the relationship between financial industry development and economic growth in Korea before and after the financial crisis using time-series data. By doing so, we tried to find out how much of a contribution the institution-building efforts in the financial sector made to economic growth after the crisis. For our empirical study, we followed the methods used by Demetriades and Hussein (1996) and Al-Yousif (2001)[18], who analyzed the relationship between financial development and economic growth using the Granger-Causality Test. We used the amount of external finance, which is the sum of the loans made by financial institutions and market capitalization, as our proxy variable for measuring financial development, just as Khan (2002) did. Our proxy variable for economic development was the natural logarithm of real GDP. To analyze the impact of institution-building on economic growth, we

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[16] This is the "supply-leading view" stated by McKinnon in 1973, Shaw in 1973, and Goldsmith in 1969, and it is supported by many empirical studies. Among the empirical studies supporting this view, those by Bencivenga-Smith in 1991 and by Greenwood-Jovanovic in 1990 are the leading ones.

[17] This is the "demand-following view", stated by Robinson in 1952, which is supported by the empirical study by Demetriades and Hussein in 1996 and others.

[18] This study used time-series data from 16 countries to analyze the relationship between financial industry development and economic growth. The ratios of cash to M1, and M2 to GDP were used as proxy variables for financial development.

compared variables taken from the period between the first quarter of 1990 and the fourth quarter of 2002, with those from the period prior to institution-building, between the first quarter of 1990 and the third quarter of 1997.[19]

As can be soon in Table 10(1), in the period prior to the foreign exchange crisis, when institution-building was not active, there was no statistically significant causal relationship between financial development and economic growth. If we include the entire period through 2002, however, as in Table 10(2), the results suggest that the level of financial development is useful in explaining economic growth, with time lags of between one to four quarters. In other words, there is evidence of causality running from financial development to economic growth. (On the other hand, when the time lag reaches between five and six quarters the variables for economic growth explain those for financial industry development suggesting a reverse causality[20].)

These results are not sufficient for concluding that institution-building efforts in the financial sector after the foreign exchange crisis enhanced financial soundness in Korea, and that this in turn helped accelerate economic growth. However, given the significance of financial development in explaining economic growth, it would be true to say that the series of institution-building measures as part of Korea's financial restructuring program to increase financial soundness are highly likely to have contributed to financial deepening and increased efficiency in the Korea financial

[19] Despite the desirability of comparing two separate time periods from before and after the crisis to determine the impact that post-crisis financial institution-building had on economic growth, it was decided to use the entire period between 1990 and 2002 for estimation, as the period following the crisis was too short for analysis.
[20] The 1996 empirical study by Demetriades and Hussein also found bi-directional causation between Korea's financial industry development and its economic growth.

industry, and have thereby induced economic growth.

<Table 10> Results of Causality Test Between Financial Development and Economic Growth (*F statistics*)

<Grandeur-Causality Test Model>

$$\Delta FIN_t = a_0 + \sum a_{1i}\Delta FIN_{t-i} + \sum a_{2i}\Delta GDP_{t-i}$$

$$\Delta GDP_t = \beta_0 + \sum \beta_{1i}\Delta GDP_{t-i} + \sum \beta_{2i}\Delta FIN_{t-i}$$

(a) (Before Institution-Building : 1990.1/4~1997.3/4)

Null hypothesis	1q	2q	3q	4q	5q	6q	7q	8q
ΔGDP ↲ ΔFIN	0.86	0.44	0.33	0.24	0.34	0.18	0.82	0.55
ΔFIN ↲ ΔGDP	0.48	0.40	0.25	0.24	0.27	0.25	0.98	0.44

Note: 1) ΔFIN and ΔGDP indicate respectively the first difference of the financial development and that of economic growth variable.

(b) (Entire Period :1990.1/4~ 2002.4/4)

Null Hypothesis	1q	2q	3q	4q	5q	6q	7q	8q
ΔGDP ↲ ΔFIN	1.52	1.06	1.13	1.59	2.88^{***}	1.97^{**}	1.64	1.41
ΔFIN ↲ ΔGDP	7.22^{***}	4.10^{***}	2.86^{***}	2.05^{**}	1.61	1.12	0.96	0.93

Notes: 1) ΔFIN and ΔGDP indicate respectively the first difference of the financial development and that of economic growth variable.
2) The symbol *** indicates the null hypothesis is rejected at a significance level of 1 percent or less, ** at between 1 and 5 percent, and * at between 5 and 10 percent.

IV. The Outlook for Future Improvement of the System

Since the late 1980s, Korea has pushed forward with interest rate, foreign exchange and capital liberalization in its financial market. This has led to the expansion of international current and capital account transactions, opening the era of financial globalization for Korea. The 1997 foreign exchange crisis taught the country an invaluable lesson : that having an unsound financial system can lead to the possibility of a foreign exchange crisis, and in order to block the negative effects of financial globalization it is imperative to set up a healthy financial system in accordance with international standards. Based on this lesson, the Korean government earnestly embarked on financial institution-building aimed at enhancing financial soundness, taking the various measures described earlier: establishing the environment for stable macroeconomic operations, establishing a system for market-based resolution of ailing financial institutions, enhancing financial institutions' transparency, setting up a prudential regulatory system, and improving the deposit guarantee system.

Efforts to improve financial institutions are currently underway in Korea, and they will be carried out on an ongoing basis in the future as well. It is expected that future institution-building efforts will focus on strengthening market discipline and enhancing transparency in such areas as monetary and fiscal policy, financial regulation, accounting and audit systems and the deposit guarantee system, in accordance with global standards and codes. The following are areas in which measures to improve financial institutions are now being taken, or will be taken in the near future:

The Bank of Korea Act, first of all, was revised again in August this year following its revision in 1997. Under the revised Act, the deputy governor of the Bank of Korea newly sits on the Monetary Policy Committee as and ex-office member, so that the department in charge of monetary policy implementation at the Bank can be more closely connected with the Monetary Policy Committee. At the same time, as a means of improving monetary policy efficiency, the inflation targeting framework was changed so that it uses an intermediate target rather than an annual one. This change enables the Bank to exercise intermediate policies better, in consideration of the long lag between monetary policy and its effects.

As a means to enhance fiscal soundness, the Korean government intends to propose a Fiscal Responsibility Law, consolidating the previously proposed Special Act for Fiscal Soundness and the existing Budget and Account Law. Just as the Special Act for Fiscal Soundness did, the Fiscal Responsibility Law will focus on strengthening fiscal discipline by providing for the setting up of a 3-year mid-term fiscal plan and its report to the National Assembly, as well as for the tightening the requirements for supplementary budgets except under certain extraordinary circumstances[21].

As far as financial supervision goes, in consideration of the increasing financial industry risk accompanying information and telecommunications technology development, as well as the introduction of the Basel II accord due in 2006, a Risk Based Supervision system is going to be introduced. Risk Based Supervision is the comprehensive supervision of financial institutions, by which there is regular evaluation of the levels of risks institutions face, and of their management capacity for dealing with these risks. It is a preemptive supervision system because it allows the authorities to identify early warning signals at financial institutions with too much risk and to then

[21] Such extraordinary occasions will include massive natural disasters, serious changes in economic conditions at home and abroad, and cases in which a need for government budgetary spending arises after the budget has already been set.

focus on these high-risk business operations. In preparing for this system, the Financial Supervisory Service, working jointly with financial institutions, has developed indicators for evaluating the risks involved in institutions' operating activities in each business area and their levels of risk management. As the next step, the FSS will finish developing a risk management information system and an evaluation program by the end of 2003, and this will be tested in the banks during 2004.

Since the financial crisis, the Korean government has made continuous efforts to enhance transparency in corporate accounting practices. This, however, is as yet far from satisfactory, and in order to further improve accounting practices, the government plans to implement several new measures in the near future. Among many other things, these measures should make the accounting and audit systems more transparent and effective. In detail, in order to strengthen corporate accountability, it will become mandatory for CEOs to certify the accounting information of their companies, and companies disclosing false information will be held legally responsible. In order to enhance the accuracy of internal auditing of accounting information, companies' audit committees will be required to include financial or accounting experts.

In the long run, risk-adjusted deposit insurance premiums are expected to be introduced, as the Korea Deposit Insurance Corporation, the Financial Supervisory Service, the financial institutions and other agencies concerned all agree on the need for a sounder incentive system in the financial system, even though they have not yet agreed on some details related to its introduction, such as whether to give regulatory authority over financial institutions to the Korea Deposit Insurance Corporation.

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