From the 1997-98 Asian financial crisis to the 2008-09 global economic crisis: lessons from Korea’s experience

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I. Introduction

The East Asian countries were hit hard by the financial crisis of 1997 but experienced a significant and remarkable recovery due in part to far-reaching economic and regulatory reforms. However, a decade later, the Asian countries are suffering again from the ongoing global economic crisis which began in the summer of 2007. If this current crisis is not managed effectively, the Asian economic situation could escalate into a more serious crisis than that of 1997-98. Due to the increased globalization of financial markets, crises tend to become more severe and contagious even if the affected countries have strong macroeconomic fundamentals. The two crises, ten years apart, provide us with a unique case study to examine whether or not the recovery from the 1997 crisis and the extensive reform efforts during the post-crisis period in Asia have been well executed, or whether they have been incomplete and ineffective in addressing the on-going global economic and financial crises since 2007.

Focusing on the Korean economy, which experienced the worst damage as well as the most successful recovery from the 1997 crisis, this paper discusses the successes and failures of the post-crisis reform efforts and identifies vulnerable areas that need further reform in Korea. There is no precise answer for why and how one of the most successful developing economies over the past 40 years suddenly became a victim of the Asian financial/economic crisis. Although policy makers

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and academics still discuss the true causes and nature of the 1997 Asian crisis, the case of Korea, in particular, has certainly highlighted the potential dangers from the volatility of certain types of financial flows, the importance of an efficient financial system and effective corporate governance, and the additional dangers of moral hazard and global contagion.\(^2\) Korea has experienced one of the fastest recoveries among the crisis-hit Asian countries by conducting efficient crisis management policies, financial market restructuring, and institutional reforms.\(^3\) (See Figure 1)

This paper also discusses some of the specific lessons that can be learned from Korea’s experience during the 1997 Asian financial crisis in order to help prevent from the reoccurrence of similar financial crises and economic downturns in the future. They are: 1) monitoring international capital flows and conducting better international debt management; 2) maintaining a competitive, efficient and well-regulated financial system to be protected from international contagia; 3) establishing an effective nonperforming asset management mechanism, such as the Korea Asset Management Corporation (KAMCO); and 4) enhancing regional financial cooperation among the East Asian countries, such as a renewed Chiang Mai Initiative to provide a short-term liquidity support, defend Asian currencies from speculative attack, and assist long-term economic growth in the East Asian region.

This paper is organized as follows. Section II describes the unique nature of the 1997 crisis in Korea. Section III identifies the mistakes of Korean policy makers and businesses and provides a basis for deriving lessons from the Korean experience. Section IV introduces the successful and efficient reform measures and crisis management strategies while providing a useful bench-marking case for non-Korean policy makers. Section V identifies areas of vulnerability in Korea to address during the on-going 2008-9 global economic crisis. Section VI discusses regional economic integration and new Chiang Mai initiatives for the post-crisis period in East Asia as


\(^3\) See Figure 1, \textit{infra}.
important institutional reforms to prevent future financial crises in the region. Section VII lists the policy lessons and concludes the paper.

II. The Korean Crisis: Unique and Different

On December 4, 1997, the Korean government reached a $58.4 billion standby agreement with the IMF. In return, the emergency rescue plan required Korea to launch a range of structural reforms in the financial sector, corporate sector, and labor market along with sound management of macroeconomic policy to regain global market confidence. Until then, the Korean economy had recorded a remarkable performance during its relatively short modern economic history, and became an exemplary case of economic development by applying the export-led economic development strategy. Korea's currency crisis in late 1997, however, quickly escalated into financial and economic crises, with the continued loss of confidence by foreign investors. With the exodus of foreign capital, the value of the Korean currency, the Korean won, fell by more than 50 percent and real gross domestic product (GDP) contracted about 6 percent during 1998. The downturn was led by a sharp contraction in corporate investment and consumer spending. A surge in corporate bankruptcies increased the unemployment rate to over 8 percent by the end of 1998 from less than 3 percent in 1997. Although this development seems to be one of the typical stories of the so-called 1997 Asian financial crisis, the Korean crisis is considered to have several unique aspects that differentiate Korea from other crisis-hit Asian countries — in the causes of the crisis, crisis management policies and strategies, and recovery processes.

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5 Koo and Kaiser, supra note 4, at 27.
6 Id. at 30-31.
First, the Korean crisis, in contrast to other crisis-hit countries in Asia, is believed to be more of a liquidity crisis rather than a structural crisis. A relatively quick and impressive recovery process in Korea (the so-called V-shape recovery), strong fundamental macroeconomic indicators prior to the crisis, and early repayment of borrowing from the IMF rescue package provide supporting evidence for this view. This liquidity crisis argument does not mean that Korea did not have structural weaknesses that needed to be corrected during the crisis. However, the fundamental nature of the Korean crisis seems to have often been misrepresented or exaggerated, for example, by those who allege that the crisis was caused by “crony capitalism” or the complete failure of “the Asian model or Korean model” of economic development. The Korean crisis was partly caused by internal problems, which will be discussed in Section III, although contagia from the troubled Southeast Asian economies aggravated the Korean situation with unfortunate ill-timing.

Second, the role of the government has been unique in Korea. During most of its four decades of economic development, the government controlled the allocation and prioritization of

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7 There have been two conflicting views for the root causes of the 1997 Asian crisis — the structural crisis and the liquidity crisis. The former view states that the crisis was caused by weak macroeconomic fundamentals and/or structural flaws in the socio-economic system; whereas the latter view believes that the Asian crisis was caused mainly by the mismanagement of borrowed funds from abroad, foreign debt and international reserve assets. For the recovery, a structural crisis would require major structural and institutional reforms which suggest a long-term recovery process, while a liquidity crisis would only need the rescheduling of debt, international cooperation of lenders in debt restructuring, and the correction of currency and maturity mismatches between foreign financing and domestic lending, along with short-term liquidity injection. The former view is in line with the so-called first-generation model of economic crisis a la Krugman. See Paul Krugman, A Model of Balance-of-Payments Crises, 11 J. OF MONEY, CREDIT, AND BANKING 311 (1979). This view has been supported by the IMF’s economists. See, e.g., Michael Dooley, A Model of Crises in Emerging Markets, International Finance Discussion Paper, No. 630; Bd. of Gov. of the Fed. Res. System (1998). The latter view is consistent with the second-generation model of the self-fulfilling prophecy of crisis. See, e.g., Steven Radelet and Jeremy Sachs, The Onset of the East Asian Financial Crisis (Nat’l Bureau of Econ. Research, Working Paper, No. 6680, 1998), available at http://www.nber.org/papers/w6680.pdf. Radelet and Sachs examined the weak-fundamental view and the financial-panic view as causes of the Asian crisis, and arrived at mixed conclusions.

resources and credit. The government also determined restructuring initiatives and took full control of reform agenda to correct its own mistakes and oversights during the post-crisis period. From the neoclassical viewpoint, the role of the government in Korea would be considered to be unfair and controversial. In reality, the interventionist role of the government is considered to be one of the significant contributing factors for the so-called Asian miracle as well as the remarkable recovery from the 1997 crisis.

Third, Korea has a culture of uniqueness and a long history of more than 4,300 years. A deep understanding of culture is essential for an accurate appreciation of economic and social changes, including crisis and reform. Some examples of unique culture-rooted institutional factors in Korea include chaebols (family-owned conglomerates), curb corporate bond markets (informal and high interest private loans), unique management-employee relationships and labor unions, compensation systems, the chaebol firms’ and suppliers’ relationship with the promissory note market, localism, and the importance of blood and alumni relationships. Examples of unique Korean features in its crisis management tools emerged during the post-crisis period – including a gold-collection campaign, self-imposed salary reductions by employees, and the tripartite agreement for burden-sharing among management, labor and government.10

Fourth, IMF conditionality imposed an array of reforms in the financial sector, corporate sector, labor market, and macroeconomic policy implementations.11 The IMF’s ‘one-size-fits-all’

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10 In February 1998, the Korean government, businesses and workers reached the Tripartite Agreement to facilitate the labor market adjustment in Korea. See History of the Econ. and Soc. Dev. Comm’n. of Korea, http://www.lmg.go.kr/eng/about/about04.asp (last visited Feb. 13, 2010). A historically unprecedented organization, the Korea Tripartite Commission (KTC, since renamed the Economic and Social Development Commission), issued “The Tripartite Joint Statement on Fair Burden Sharing in the Process of Overcoming Economic Crisis,” and agreed that the labor union accepts the employer’s right to make redundancy layoffs, and, in return, employers accepted the worker’s right to union representation, unemployment insurance and an extended social safety net. See Keun Lee & Chung H. Lee, The Miracle to Crisis and the Mirage of the Postcrisis Reform in Korea: Assessment After Ten Years, 19 J. OF ASIAN ECON. 425, 429 (2008). The KTC has provided a forum for frank consultation, dialogue, and compromise among labor, management and government as an important reform effort during the post-crisis period in Korea.

11 See International Monetary Fund, supra note 4.
prescription for bailing out Korea has received criticisms and complaints from both within and outside Korea. For example, some critics claim that the dictated banking reform plan was too harsh and the tight monetary policy, which had the intention of attracting foreign capital, resulted in a painful recovery process only after afflicting severe and unjustifiable damage to the most vulnerable classes of society — such as low-income households, small-and-medium size firms, and near-retirement age workers. The case of the Korean crisis and subsequent reforms is considered to provide more convincing evidence, than other crisis-hit Asian countries, of the ill-prepared, mechanical and culturally insensitive nature of the IMF rescue plan.

III. Korea’s Mistakes — Its Own Lessons

A decade later, some consensus has been reached on Korea’s mistakes and oversights before the 1997 crisis was erupted. As Table 1 depicts, the Korean economy had strong fundamentals as evidenced by relatively good-standing macroeconomic indicators prior to the crisis. During the early and mid-1990s, Korea performed well with 5-9 percent real GDP growth rates, 35-40 percent high saving and investment rates, 4-6 percent of inflation rate, 2 percent unemployment, and prudent fiscal policy with a balanced government budget.

However, weakness and vulnerability had been developing during the early period of economic development until the crisis broke out in several areas — the financial sector, the corporate sector, Chaebol-government risk relations, and capital account and international debt management. The danger of the microeconomic mismanagement in these vulnerable sectors and

12 Mishkin argues that an international lender of last resort such as the IMF is needed to cope with financial crises in emerging economies where external debt is denominated in foreign currencies and to address institutional inadequacies in dealing with expansionary monetary policy after the crisis. See Frederic S. Mishkin, Lessons from the Asian Crisis, 18 J. OF INT’L MONEY AND FINANCE 709, 714 (1999). However, the international lender of last resort will produce better outcome only when it acts quickly, free of moral hazard, and as a fair third party to provide the necessary momentum for microeconomic reform and change. Id.

13 A series of strong critics on the IMF conditionality imposed on the Asian countries during the 1997-8 crisis have been presented in: JOSEPH STIGLITZ, GLOBALIZATION AND ITS DISCONTENTS (2002); JAGDISH BHAGWATI, IN DEFENSE OF GLOBALIZATION (2007); and Paul Krugman, Financing vs. Forgiving a Debt Overhang: Some Analytical Notes, 29 J. OF DEV. ECON. 253 (1988), among others.
institutional loopholes became more evident during the pre-crisis period in Korea, and these areas turned out to present serious burdens on the sustainability of the Korean economy. The contagion effect, initially unexpected, from the collapse of currency/financial markets in Thailand in July 1997 and its neighboring countries immediately afterwards aggravated the Korean problems with unfortunate ill-timing. Each of Korea’s main mistakes will be overviewed briefly.

A. Foreign Borrowing with Currency and Maturity Mismatch and International Debt Mismanagement

One of the major challenges for developing countries such as in the Korean economy, with inadequate domestic saving in spite of their relatively high savings rates, is how to optimally and efficiently finance the nation's economic development with foreign capital and saving.\textsuperscript{14} Although foreign capital has played a very important role in accelerating economic growth in less developed countries, there are inherent risks on relying on too much and/or inadequate sources of foreign capital, which can result in an unsustainable build-up of foreign debt (a so-called debt crisis) or various forms of financial/currency crises.

On the other hand, capital inflows, which are desperately needed to finance economic development, may generate various negative effects on the economy. Part of the capital will go to consumption, instead of investment, increase aggregate demand, and create inflationary pressure. Capital inflows appreciate real exchange rates and, consequently, generate a deficit in the current account. Such current account deficits and large foreign borrowing significantly increase the vulnerability of the economy to variations in international capital flows. When further foreign borrowing is induced to finance the deficits and is composed of short-term and volatile sources, the vulnerability becomes even greater. Foreign investors may overreact to any unfavorable, domestic and international developments and withdraw their funds quickly. Thus capital inflows, which have been vital for economic growth, could become the country's weakness. The vulnerability will

\textsuperscript{14} See Figure 2, infra.
be compounded if the domestic banking system is weak and is not able to withstand a reversal of capital flows. Unfortunately, this was the case in Korea.

Excluding the current financial crisis, Korea's macroeconomic performance until the third quarter of 1997 was broadly positive. There were, however, unfavorable developments in other areas immediately before Korea was hit hard in October and November 1997, most conspicuously the bankruptcies of chaebols and the increasing trade deficits. Subdued import demand and the plummeting prices of DRAMs\(^{15}\) caused the widened current account deficits since 1994, especially in 1996 and 1997. The current account deficit in 1996 reached $23.3 billion or almost 6 percent of GDP, as shown in Table 1. The deficits were financed mostly by foreign borrowing of banks and financial institutions along with portfolio investment by foreign investors to Korea.

In the 1990s, a number of highly leveraged conglomerates (called chaebols) went bankrupt.\(^{16}\) This was caused by excessive investment — such as steel and automobiles — labor strikes, and weakened profitability of exporting firms due to worsened terms of trade and the appreciated Korean won. The bankruptcies severely weakened the financial system and resulted in the accumulation of non-performing loans. The exodus of foreign capital invested in Korean stocks and securities and the successive downgrade of Korea's sovereign rating by international credit rating agencies, such as Standard & Poor's and Moody's, exacerbated the confusing crisis situation. Abrupt and massive outflows of foreign capital from Korea made it problematic to maintain an optimal level of international reserves and sharply tightened the availability of external finance in the international financial market, which was already contaminated by Asian flu started in Thailand in July 1997. Although strong fundamentals and the relatively sound public sector make the Korean case different from the Latin American debt crisis in the early 1990s and the

\(^{15}\) DRAM, or Dynamic Random Access Memory, is computer memory chip (a semiconductor product) which is vital to the Korean economy.

Mexican crisis in December 1994, unmonitored over-borrowing and mismanagement of international liquidity brought Korea to the crisis outbreak.

As Figure 2 depicts, the accumulated current account deficits and over-investment during the pre-crisis period in Korea had to be compensated by foreign saving. Portfolio investment and borrowing foreign funds with short-term maturities by the financial institutions brought in foreign capital quickly, but this capital was riskier due to currency and maturity mismatch and the high probability of its reversal in direction during a future crisis. At the end of 1997, Korea’s total external debt had accumulated to $174 billion which is 33.7 percent of Korea’s GDP. Among them, total short-term external debt amounted to more than $100 billion, or 58 percent of the total, while usable international reserve held by the Bank of Korea were only $9.1 billion. Accordingly, by then it was not feasible for Korea to handle the “double mismatch” problems on its own. The majority (70-80 percent) of bank borrowing from abroad was conducted with short-term maturities of one year or shorter. The mismatch problems stemmed significantly from the inefficient surveillance and supervision of financial institutions in Korea, especially merchant banks.

B. The Controversial Government-Business Risk Partnership: Moral Hazard and Implicit Guarantees

One of the most distinctive characteristics of the “Korean model” of economic development during the last four decades is the government-business partnership. Since the early 1960s when an export-oriented economic development strategy was adopted, the Korean government has provided preferential loans through government controlled banks, tax (and tariff) favors, and repayment guarantees (explicit and implicit) to foreign lenders. Although the government-business partnership worked remarkably well during the early stage of economic development with an efficient allocation of limited resources and credit, the partnership started to

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17 See Figure 1, infra. The official volume of international reserve assets held by the Bank of Korea right before the Korean crisis in November 1997 was more than $32 billion. However, the majority of the reserve assets was not readily available since they were lent out to overseas branches of the Korean commercial banks as their operating capital.

18 See Aoki et al., supra note 9.
show flaws, especially the government partnership with Korea’s family-owned business groups, or chaebols. The 30 chaebols had significant shares of ownership in commercial banks and non-bank financial institutions (NBFIs), and exercised their influence in the financial sector. Corporate financing in Korea became heavily dependent on banks and NBFIs. As a result, alternative sources of financing, such as direct financing through the issue of corporate bonds and commercial papers, had not become significant sources until the early 1990s. Most of the chaebols used NBFIs heavily, especially merchant banks, to borrow funds from abroad. This is because merchant banks were not regulated properly, unlike commercial banks, in their dealings with short-term, high risk foreign borrowing.

Chaebols were the major benefactors of Korea’s government-controlled credit allocation, financial liberalization policy, and various export-promotion measures. Several bail-out measures of near-bankrupt chaebols in earlier years created a false belief that the government would implicitly guarantee against their bankruptcy in any event.19 At the same time, foreign lenders believed there was relatively little default risk for chaebol loans since the government would pick up near-default loans. It created a “too-big-to-fail” dilemma for chaebols in Korea.20 This nonmarket-based and high cost government-chaebol relationship became one of the main contributing factors to the problems of over-investment, low profitability, and increasing non-performing loans (NPLs), which culminated on the eve of the Korean crisis in November 1997.21

20 As of April 2001, when a series of chaebol reforms had been executed, top 10 business groups in Korea were Korea Electric Power Corp. (KEPCO, total asset: 92.1 tril won), Samsung (83.5), LG (58.6), SK (47.5), Hyundai Motors (44.1), KT (30.6), Korea Highway Corp. (KHC, 28.3), Hanjin (21.0), Lotte (20.7), and POSCO (20.5). Among them, Samsung, LG, SK, Hyundai Motors, Hanjin, and Lotte are chaebols, whereas KEPCO and KHC are the state-owned groups, and KT and POSCO are the private groups but not controlled by the owner family. See Korea Trade Comm’n., Business Groups Under Regulations in 2001 (2001) (in Korean).
21 The Korean chaebols were involved with highly leveraged business operations and over-investment in overlapping and less promising projects. The average debt-equity ratio for the top 30 chaebols exceeded 500 percent in 1997 and reached 524 percent, which is more than double the OECD average. For the corporate governance reform and its outcome, see Lee & Lee, supra note 10.
C. The Sequence and Timing of Financial Liberalization: Ill-Prepared and Hurried

Until the early 1990s, foreign capital contributed to the continued rapid growth of the Korean economy, which was also aided by the favorable macroeconomic environment and current account surpluses. The Korean government restricted new foreign borrowing, especially in public loans and commercial loans, but encouraged the issue of new foreign bonds as a means to attract foreign capital. During the period from 1986 to 1992, a total of $30.4 billion of foreign capital arrived in Korea, which was slightly less amount than the total for the previous six-year period in the 1980s. By type, foreign bonds issued by financial institutions and private firms increased sharply, while foreign borrowing through bank loans was significantly reduced. Thanks to the improved investment environment in Korea, FDI increased fivefold over the previous period to $5.6 billion.

Consequently, the sources of foreign borrowing became well-balanced with 15 percent of public loans, 17 percent of commercial loans, 14 percent of bank loans, 20 percent of foreign bonds issued by financial institutions, 15 percent of equity related foreign bonds issued by private firms, and 19 percent of FDI out of the total foreign borrowing. The structural improvements in foreign borrowing had been achieved: the significant reduction in the debt-service-ratio (DSR) from 30 percent in 1987 to 5 percent in 1992, the accelerated early repayments of foreign loans, and the diversification of foreign borrowing types as described above. However, these balanced and self-disciplined capital inducement policies in Korea started to be reversed after this period.

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23 Id.

24 Id.

25 Id.

26 For the history of foreign capital flows into Korea, government policies for inducing foreign capital, and the role of foreign capital for economic development in Korea, see Bang Nam Jeon, The Role of Foreign Capital in the Korean Economy: A Driving Force of Economic Development or Financial Crisis? in Sir Hans Singer, Neelambar Hatti and Rameshwar Tandon, eds., XXIII SERIES IN HONOR OF RAL PREBISCH AND SIR
Since 1993, the Korean financial and capital markets became more internationalized and open to foreign investors. For example, the Korean government relaxed the restrictions on investing in the Korean stock market by foreign investors, in order to establish a 10 percent foreign investment ceiling per issue and a 3 percent limitation on individual holdings per issue.\textsuperscript{27} In accordance with the OECD requirements placed on Korea as a member nation since 1994, the stock market was opened further in 1996, raising the foreign investment ceiling to 18 percent per issue and the individual ceiling to 4 percent.\textsuperscript{28} Aided by these financial market liberalization measures, the amount of capital inflow into Korea had greatly increased in the years, leading up to the crisis. During the pre-crisis period, as shown in Table 1, foreign capital inflow was primarily in the form of portfolio investment and short-term bank loan rather than foreign direct investment, which is more long-term and committed.\textsuperscript{29}

In 1998, the ceiling on foreign investments in the stock market was lifted altogether. The Korean market had become more favorable to foreign investment due to sweeping reforms since the IMF stepped in to bail out Korea from its currency crisis in November 1997. Attracting foreign investment became a policy priority, especially in the form of FDI, mergers and acquisitions (M&A), and technology transfer.

The Korean people have, however, learned a hard lesson that as the process of financial the deregulation and liberalization has led to a more integrated and globalized Korean capital market, Korea also became more exposed to the volatile nature of profit-seeking capital flows and currency risks. The roots of the capital account problems actually started to build up from the beginning of the 1990s in the area of foreign capital inflows. This is shown in Panel II (“External Sector”) of

\textsuperscript{27} Id.

\textsuperscript{28} Id.

\textsuperscript{29} Kaminsky and Reinhart find that financial liberalization and lending increases, rather than simple capital inflows, are important predictors of banking crises. See Garciea L. Kaminsky & Carmen M. Reinhart, \textit{The Twin Crises: The Causes of Banking and Balance-of-Payments Problems}, 1999 AMERICAN ECON. REV. 473. 474. They also find that when currency and naming crises occur jointly, the crises are far more severe than when they occur in isolation. \textit{Id}. 

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Table 1. FDI inflows and bond financing, which are relatively stable sources of foreign capital, have increased steadily. Portfolio investment and borrowing by the financial institutions, which brought in foreign capital quickly but were riskier due to the high probability of its reversal in direction, have also increased significantly since the beginning of the 1990s. The liberalization of capital accounts after the early 1990s proceeded swiftly and aggressively with the need to pay for increasing current account deficits without adequately preparing the domestic financial sector and the current account liberalization. The sequence of opening domestic markets to foreign investors was reversed and the speed of liberalization was too fast. Although Korea had actually realized the vulnerability that had built up in the area of foreign capital inflows and the inefficient financial sector, and planned to overhaul the outmoded financial system in the beginning of 1997, it turned out to be too late.  

D. The Contagion Channel: Unexpected and Ignored

A remarkable feature of the Asian crisis was the speed with which it spread from Thailand to other countries in the region, including Indonesia, Malaysia, the Philippines, and Korea in the span of a few months. The Asian crisis started when the Thai exchange market collapsed on July 2, 1997. The currency crisis spread to the neighboring Southeast Asian countries. In late October, the contagion spread to the Hong Kong currency and stock markets. Policy makers and investors in Korea did not expect that the so-called “Asian virus” would spread to Korea.

There have been different explanations and proposals for why and how contagion spread so quickly in the region, namely macroeconomic similarities, trade links across countries, and cross-country financial links. Careful examination of macroeconomic indicators around the outbreak of the currency crises in the crisis-stricken nations reveals the relative irrelevance of the strength of  

30 In January 1997, the Presidential Commission for Financial Reform was launched and it submitted a number of policy recommendations including improved regulation of the financial sector in Korea. See Joon-Ho Hahm, Financial System Restructuring in Korea: The Crisis and its Resolution, in EAST ASIA’S FINANCIAL SYSTEMS: EVOLUTION & CRISIS 109, 109 (Seiichi Masuyama et al., eds., 1999).
macroeconomic fundamentals with the eruption and contagion of the 1997 Asian crisis. The swift and global-scale contagion of the Asian crises seems to support financial links, rather than trade links, as the key channel of contagion. The occurrence of a crisis in one country may induce global investors to rebalance their portfolios for various reasons. In the world of financially linked nations, shifts in investor sentiment or increased risk aversion can play an important role in the spread of crises.

The major indicators of financial crises and contagion include volatile movements in the exchange rate, the depletion of international reserves, sharply rising short-term interest rates and falling stock market prices. During the major financial crises of the 1990s, these financial variables moved significantly in many of the affected countries. These indicators, therefore, may identify other countries affected by contagion. Stock markets in the region, in particular, were found to play an important role in transmitting initial and local shocks beyond their country of origin to other emerging economies during the 1997 crisis.

The first channel of spreading crises via stock market contagion is the erosion of investor confidence by investors. A decline in confidence caused by a currency crisis in the crisis-origin country results in falling stock prices with greater volatility. Stock market linkages provide an effective path for the spread of eroded confidence across countries. Stock market linkages also work as an indirect channel of contagion through the role of foreign investors. Liquidity difficulties facing international investors as a result of currency crises also force the investors to liquidate their positions in other national markets, consequently spreading the crises.

For empirical evidence of the unique role of international credit rating agencies in affecting domestic and cross-country stock markets, along with the contagion effects, during the 1997 Asian crisis period, see
The common lender problems of the Japanese investors in Southeast Asia, portfolio rebalancing across countries by international fund managers, and American and Japanese banks’ refusal to roll over their loans to Korean financial institutions are all additional factors which contributed to the financial contagion from Southeast Asia to Korea. The Korean economy and policy makers did not have the proper tools and preparation to minimize the contagion channels of cross-country financial linkages.

IV. Efficient and Successful Crisis Management and Reform – a Benchmarking Case

The process of post-crisis reform and recovery in Korea was successful and swift. One of the most important contributing factors for Korea’s successful and quick recovery from the 1997-98 crisis was the establishment of effective crisis resolution mechanisms. The resolution of weak banks and financial institution requires: (1) diagnostic reviews of bank portfolios; (2) the identification of viable and nonviable banks; (3) the resolution of nonviable banks; (4) the quick clean-up of toxic/bad assets and nonperforming loans (NPLs) from troubled financial institutions; and (5) the recapitalization of viable banks and the protection of depositors in order to regain confidence in the banking system. For the first three tasks, the Financial Supervisory Commission (FSC) was established as an independent, consolidated supervisory authority for banks, securities houses and insurance companies;\textsuperscript{34} for the later two tasks (4) and (5), two state-owned corporations — the Korea Asset Management Corporation (KAMCO)\textsuperscript{35} and the Korea Deposit Insurance Corporation (KDIC)\textsuperscript{36} — were established, immediately after the 1997 crisis erupted. More detailed discussion follows.

\begin{footnotesize}
\textsuperscript{35} See Korea Asset Mgmt. Corp., http://kamco.or.kr/eng.html (last visited Feb. 12, 2010).
\textsuperscript{36} See Korea Deposit Ins. Corp., http://www.kdic.or.kr/english/index.jsp (last visited Feb. 12, 2010).
\end{footnotesize}
A. Banking reform: Maintaining a competitive, efficient and well-regulated financial system to be protected from international contagion

Significant restructuring took place immediately after the crisis in both the banking and non-banking sectors in Korea. Restructuring of the financial system took off in June 1998 as the FSC ordered 5 of 20 major commercial banks to be closed.\(^{(37)}\) Seven other banks were allowed to continue their operations under specific conditions imposed and were given time to improve their capital structure. The largest two of the seven banks, Citizens Commercial Bank and Hanil Bank, were directed to be merged as Hanvit Bank, and merger partners were found for other three banks.\(^{(38)}\) The Korea Exchange Bank was able to improve its capital structure by obtaining foreign capital from Germany, and the Kukmin Bank sold a large block of stocks to Goldman Sachs.\(^{(39)}\) Two major commercial banks, Cheil Bank (or Korea First Bank when translated) and Seoul Bank were nationalized through downsizing the capital structure and recapitalization by the government.\(^{(40)}\) A controlling share of Cheil Bank was taken by Newbridge Capital in 1999, an investment group in the U.S.,\(^{(41)}\) while that of Korea Exchange Bank was obtained by Lone Star, a US private equity fund, in 2003.\(^{(42)}\) The Korean government also announced full deposit guarantees for all financial institutions that are covered by the KDIC. Through the two rounds of financial restructuring, a total of 893 (or 42.5 percent of the total) insolvent financial institutions out of 2103 were either closed or merged as of December 2006. Table 2 summarizes changes in the number of financial institutions classified by group. It is notable that all of the 30 merchant bank corporations, except one, were forced to close.

\(^{(37)}\) See Dookyung Kim, Bank Restructuring in Korea 147 (Bank for Int’l Settlements, Policy Papers No. 6, 1999), available at http://www.bis.org/publ/plcy06e.pdf.

\(^{(38)}\) Id. at 153.

\(^{(39)}\) Id. at 152.

\(^{(40)}\) Id. at 155. Recapitalizations of Cheil Bank and Seoul Bank required a large capital injection of about 5 percent of Korea’s GDP. Id.

\(^{(41)}\) Id. at 149.

These drastic and decisive reform actions in the banking sector in Korea prevented runs in the financial sector and helped the financial sector regain competitiveness and confidence from foreign and domestic depositors and investors. The downward spiral of corporate defaults and decreasing loans lasted only less than a year in Korea. In 1999, overall lending by commercial banks to the private sector jumped 27.0 percent in real terms, after suffering a 9.7 percent drop in the previous year. This short-term turn-around succeeded in driving medium-term improvement as well, as evidenced by improving indicators of banking/non-banking institutions’ performance. As Figure 3 shows, the ratio of non-performing loans (NPLs) to total loans in Korea’s financial institutions dropped from 13.5 percent in 1998 to 1.9 percent in 2006, and the Bank of International Settlements (BIS) capital ratio for commercial banks improved from 7.0 percent in 1997 to 13.1 percent in 2006.43 This feature of the Korean recovery in the financial sector is notable when compared with that of other crisis-hit countries in Asia and Latin America.44

Challenges facing the banking reforms also emerged from several areas during the banking reform process, including the lack of transparent criteria for classifying banks into the viable and non-viable groups, commercial banks’ rapid switching of loan target markets from corporate loans to consumer loans (especially credit card loans and housing loans), and moral hazard problems by consumers.45 The acquisition procedures for some Korean banks became controversial in later

43 The BIS capital ratio is defined as a ratio of the risk-bearing capital to the risk-weighted assets, which is an indication of the solvency of a bank. The BIS’ Basel committee for international banking supervision has drawn up global standards for capital adequacy and also established criteria for the classification of loans in terms of risk. Korea’s domestic banks’ BIS capital ratio under Basel II went up to an average of 12.94 percent as of March 31, 2009 from 12.31 percent at the end of 2008. Efforts to boost capital were made through equity issues and by tapping the Bank Recapitalization Fund.
45 For more details for the banking, financial and corporate reforms in Korea and the challenges for the reforms from different perspectives, see Koo & Kiser, supra note 4. See also Wonhyuk Lim and Joon-Ho Hahm, Turning a Crisis into an Opportunity: The Political Economy of Korea’s Financial Sector Reform, in FROM CRISIS TO OPPORTUNITY: FINANCIAL GLOBALIZATION AND EAST ASIAN CAPITALISM 83 (Jongryn Mo & Daniel I. Okimoto, eds., 2006), available at http://www.brookings.edu/~/media/Files/rc/articles/2006/01northkorea_lim/lim20060324.pdf (2006); Lee & Lee, supra note 10.
years due to a lack of transparency and sizable profits.\textsuperscript{46} Korea also faced increasing government
debt and deficit problems. The government deficit increased from 1.4 percent of GDP in 1997 to
3.5 percent and 2.3 percent in 1998 and 1999, respectively.\textsuperscript{47} As a result, the central government
debt increased from 8.8 percent of GDP in 1996 to 18.5 percent in 1999.\textsuperscript{48}

B. Establishing an Effective Non-Performing Asset Management Mechanism, such as the
Korea Asset Management Corporation (KAMCO)

When the Korean economy was hit by the crisis at the end of 1997, the Korean government
responded quickly by launching financial reform programs — public funds were injected to bail
out troubled banks and financial institutions, and banking restructuring was pursued aggressively.
One of the key tasks was to resolve non-performing loans. Legislation was passed in August 1997
to establish the NPA Management Fund, and KAMCO was created in November 1997.\textsuperscript{49} At the
same time, the Korea Deposit Insurance Corporation (KDIC) was also expanded and recharged to
be able to provide financial support for troubled financial institutions through recapitalizations,
liquidity injection and loss redemption for financial institutions. In addition, the KDIC expanded
the depositor protection program immediately after the crisis erupted by temporarily covering all
depositors for three years until December 2000.

KAMCO carried out its task of resolving non-performing loans (NPLs) efficiently and
contributed to the efficient restructuring of the financial industry in Korea during the post-1997

\textsuperscript{46} Lone Star was attempting to sell its equity in Korea Exchange Bank to Kookmin Bank, but has faced
criminal investigations from Korean regulators for stock manipulation, among other charges.
\textsuperscript{47} \textit{See Table 1, infra.}
\textsuperscript{48} \textit{Id.}
\textsuperscript{49} \textit{See supra} note 35. KAMCO was actually expanded and converted from former so-called Seongup Kongsa
which had been helping financial institutions to recover bad-performing loans. It was not until December 31,
1999 that the name was changed to KAMCO. KAMCO is a public asset management company like the RTC
(U.S.), Securum (Sweden), Arsenal (Finland) and Danaharta (Malaysia). KAMCO is similar to RTC in the
US in the sense that both try to dispose of NPL as fast as possible rather than to maximize recovery rate.
However, KAMCO began to put more emphasis on the recovery rate by using various kinds of restructuring
devices. Moreover, KAMCO established its own CRC and CRV, which are joint-ventures with foreign
investment banks such as Morgan Stanley, Dean Witter, Sonnenblick Goldman and (prior to 2008) Lehman
Brothers.
crisis period. The role of KAMCO has been five-fold: (1) the management and operation of the Non-Performing Assets Fund; (2) the acquisition and resolution of NPAs from financial institutions; (3) the implementation of work-out programs for distressed companies; (4) the management of government-owned properties and resolution of tax arrears; and (5) supporting the recovery of consumer credit. One of the major functions of KAMCO was to acquire and dispose of NPLs from financially distressed financial institutions and companies under rehabilitation plans.

During the post-crisis period of 1997-2006, KAMCO paid a total of 38.8 trillion won to purchase a total of 111 trillion won of NPLs in face value. KAMCO applied various methods to dispose of the NPLs effectively and a total of 41.5 trillion won was recovered as of the end of 2006. Therefore, KAMCO recovered more than the amount that was originally injected in the Fund, minimizing the tax payer’s burden. This is one of the success stories in the NPL disposal that can be emulated by others. On the other hand, the KDIC raised a total of 95.5 trillion won and spent a total of 130 trillion won for bank recapitalization activities (63.5 trillion won), liquidity injection for weak financial institutions (18.5 trillion won), deposit insurance payments (30.3 trillion won), and purchasing troubled assets (17.3 trillion won). About two-thirds of the public funds were raised through bonds issues by KAMCO and KDIC. The Korean government financed the deficit of the funds for financial restructuring through a special budget, foreign-borrowed funds, and a government-owned property management fund, among other methods. This amounted to 22.6 trillion won as of August 2001. In sum, as shown in Table 3, KAMCO and KDIC’s fiscal support for financial restructuring during the period of November 1997-December 2006 amounted to 168.4 trillion won. ($181 billion based on the won/dollar exchange rate as of Dec 2006, or 19.0 percent of 2006 GDP, or 34.2 percent of 1997 GDP.) More than 50% of the public funds injected

50 See Figure 4, infra.
51 Supra note 49.
52 See Table 3, infra.
53 See KAMCO, WHITE PAPER ON NON-PERFORMING LOANS RESOLUTION FUND (2004).
54 Current South Korean President Lee Myung-Bak has opined to this effect. See Lee Myung-Bak, Op-Ed., How Korea Solved Its Banking Crisis: The World Can Learn from Our Experience in the Late ‘90s, WALL ST. J., Mar. 27, 2009, at A11.
have been recovered as of December 2006, as shown in Figure 5, through the efficient implementation of maintenance, sales and transfer of public funds projects.

There are a few noteworthy points here. First, although Korea had no experience and/or expertise in handling such a massive amount of NPLs, the task was done swiftly and successfully. Second, when KAMCO disposed of a massive volume of NPLs purchased at a discount, it used various innovative ways to obtain the highest possible returns — public auctions, direct sales, international tenders, adopting Corporate Restructuring Vehicles (CRVs) or Corporate Restructuring Companies (CRCs), issuing asset-backed securities (ABS), and debt-equity swaps. Third, the NPL problem of financial institutions in Korea was addressed quickly and decisively. Only 2 days after the KAMP was established, it purchased a total of 4.4 trillion won worth of NPLs from Cheil Bank (or Korea First Bank) and Seoul Bank at 2.9 trillion won. KAMCO purchased a total face value of 99.5 trillion of NPLs until August 2001 and paid 38.2 trillion won. Fourth, the bail-out measures should have built-in exit measures with clear time frames. A plan for handing over government-owned nationalized banks to the private sector at the earliest convenience is a must. Fifth, although the bail-out plans were executed promptly and decisively, the plans were flexible and adaptable. KAMCO and KDIC also injected needed short-term liquidity to merchant banks and other financial institutions by using repurchasing agreements of lower-preferred bonds issued by troubled banks and by providing direct loans to them.

KAMCO’s various NPL disposal approaches had other positive effects. Financial intermediaries such as CRV’s were adopted in Korea for the first time. The merger and acquisition market was stimulated, and corporate restructuring methods became more sophisticated. Korea’s experience in NPL resolutions with KAMCO became a role model to other countries in Asia and

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55 The corporate restructuring company (CRC) is a Korean version of a vulture fund, specializing in the restructuring of distressed companies, and the Corporate Restructuring Vehicle (CRV) is a vehicle especially for restructuring workout companies. The CRC is based on The Industrial Development Act (May 1999), while The Act on Corporate Restructuring Vehicles (May 1999) defined CRV as a paper company in the form of mutual fund which pools distressed assets of financial institutions and transfers them to asset management company for specialized management.
Eastern Europe. Recently the Korean government has allowed KAMCO to invest in overseas MPC markets.

It is worthwhile to examine how KAMCO dealt with assets and liabilities for troubled banks. When it purchased NPLs from troubled banks it paid a fair price with a reasonable discount. For example, KAMCO paid 38.2 trillion won from its inception in November 1997 to August 2001 to purchase assets with a collective face value of 99.5 trillion won. The discount rate is, on average, 65 percent. The asset-liability purchase procedures for exiting banks were different. To minimize the adverse impact of a bank’s bankruptcy procedure on the market value of the processed bank and its customers, KAMCO used the so-called Purchase and Assumption (P&A) method under which bankruptcy procedures would be followed only after transferring the assets and liabilities of the processed bank to acquiring banks. The acquiring banks assumed only good assets while KAMCO acquired the remaining bad assets at a significant discount. For the smooth transfer of assets and liabilities of exit banks, the Korean government, in cooperation with the FSC, established special-purpose bridge banks, such as Hanahreum Merchant Bank and Hanahreun Fund, and new banks such as Hanaro Merchant Bank.

KAMCO assessed the risk level of NPLs and classified them into three levels — normal loans, special loans and workout loans. Special loans were the loans to firms undergoing the bankruptcy procedure with courts, workout loans were the loans to firms subject to workout agreements with the bank, and the rest were considered normal loans. Each loan was also classified as either collateralized or uncollateralized. The purchasing price of a normal loan by KAMCO was the market price of the underlying collateral, i.e., the effective collateral value multiplied by the average bidding acceptance rate. The effective rate was the assessed price of the collateral minus liens, and the average bidding acceptance rate was the court bid price of the same
kind/market assessed price. Non-collateral normal loans were purchased at 3 percent of the face value of the loan, which was increased to 9 percent in 1999.  

C. Corporate Sector Reform: Chaebol Reform and Corporate Governance

The Korean crisis in 1997-98 showed that the highly leveraged and vulnerable corporate sector was one of the key contributing factors to outbreak and depth of the banking crisis, caused by accumulated NPLs and over-borrowing from foreign sources. A liquidity crunch and the deepened recession during the post-crisis period hurt the corporate sector even more. This downward spiral of events needed to be broken. In particular, chaebols, which are characterized by closed ownership within the family of the founder and a highly diversified business structure, became the core target of corporate sector reform.

In January 1998, the Korean government and major chaebols agreed to reform the business practices of the chaebols. Since then many drastic changes in business practices have been implemented, such as the improvement of transparency in accounting and finance, the increase in minority shareholders rights, and the reform of the composition of boards of directors, among others. The Korean government and congress have introduced various laws and regulations to induce private firms and chaebols to improve their corporate governance and capital structures and focus on core competencies.

56 For the detailed information on purchasing prices and procedures of non-performing loans (NPLs), see KAMCO, supra note 53, at chapter 3.

57 In early January 1998, President-elect Kim Dae-jung and the major Korean chaebols agreed to the five-points of the accord, which became the main targets of President Kim s chaebol policies: 1) to hold chaebol leaders more accountable for managerial performance; 2) to boost managerial transparency; 3) to improve financial health; 4) to focus on core businesses; and 5) to eliminate loan guarantees among affiliates. A later presidential announcement in August 1999, added three supplementary items to the chaebol reform agenda: 1) prohibiting the domination of finance by industrial capital; 2) suppressing circular investment and unfair transactions among chaebol affiliates; 3) preventing improper bequests or gifts to chaebol heirs. These “5+3” principles were aimed at implementing fundamental reforms in the chaebol structure during the post-crisis period. For details, see FEDERATION OF KOREAN INDUSTRIES, IMPLEMENTATION STATUS AND FUTURE SUBJECTS OF CORPORATE RESTRUCTURING (CEO Report Vol. 651, 2002) (in Korean).

58 For more details on the chaebol reform in Korea, see ECONOMIC CRISIS AND CORPORATE RESTRUCTURING IN KOREA: REFORMING THE CHAEBOL (Stephan Haggard, Wonhyuk Lim & Euysung Kim,
First, there have been significant efforts to enhance transparency in corporate finance, accounting and ownership structures. Beginning in 1999, chaebols were required to provide a consolidated financial statement free from intragroup interlocking transactions. Korea’s accounting standards were revised to be consistent with international accounting standards, including the requirement of an independent audit committee in all listed companies. In April 1998, the government banned affiliated chaebol firms from providing debt/payment guarantees to other affiliated chaebol firms, or cross-debt or payment guarantees.

Second, various new rules of corporate governance were established to reduce conglomerate structures — concentrated and interlocking ownership in a family or internal group — to protect minority shareholders rights and to increase the transparency of the board of directors structure by requiring all listed companies to appoint one or more outside directors. Banks also have many outside directors. These features are all typical characteristics of the Anglo-American system of corporate governance. Third, in 1998 the government further freed mergers and acquisition (M&A) activity and further opened domestic stock and financial markets to foreign investors. Foreign investors were able to greatly increase their market shares and ownership of Korean firms. Fourth, the capital structure of large firms in Korea has improved and profitability has also increased during the post-crisis period. The top five chaebols were able to reduce their debt-equity ratios below the 200 percent level by the end of 1999 using recapitalization, sales of risky assets and the inducement of foreign capital investment.

Fifth, the Korean government introduced or revised bankruptcy-related laws, simplifying legal processes for bankruptcy filings and corporate rehabilitations. For financially troubled but
viable firms, the government encouraged lending banks and creditors to support restructuring efforts, instead of filing for bankruptcy and entering the liquidation process.\textsuperscript{61} The restructuring tasks are called the “work-out” process, which include debt rescheduling, write-off or write-down of debt, providing new loans, assistance of management by experts, and streamlining core business operations and the workforce, among others.

Finally, a drastic, but controversial, government-directed corporate restructuring effort was made by the Korean government to streamline the core competence of big \textit{chaebols} in 1999-2000. To reduce excess capacity and overlapping investment, the government proposed a series of business swaps and consolidations in various industries — such as the semiconductor, petrochemical, aerospace, railway vehicle, power-generator/ship-engine, oil refining, electronics, and automobile industries. The initiative was called “business swap” or “big deal.”\textsuperscript{62} Some of the largest \textit{chaebols}, including Daewoo, were allowed to fail. The government revised “The Industry Development Law” in January 1999 to allow Corporate Restructuring Companies (CRCs) to provide services for planning and implementing restructuring projects with investors, and introduced the Corporate Restructuring Vehicles (CRV) Act to streamline the management of workout on behalf of creditor financial institutions.

As a result, Korean firms become stronger and less vulnerable to crisis-type shocks coming from domestic and foreign markets. The debt-equity ratio of \textit{chaebols} dropped from more than 500 percent during the pre-crisis period to less than 200 percent during the post-crisis period. Korean firms also experienced increased transparency, efficiency and profitability.\textsuperscript{63}

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\textsuperscript{61} To facilitate corporate restructuring, the government launched a corporate restructuring fund of 1.6 trillion won in October 1998. Domestic banks also reached an agreement on June 25, 1998, called “The Financial Institution Agreement for the Enhancement of the Corporate Restructuring.”

\textsuperscript{62} For the background and processes of the big deals in detail, see ORG. FOR ECON. CO-OPERATION AND DEV., \textsc{Regulatory Reform in Korea: The Role of Competition Policy in Regulatory Reform} (2000), available at http://www.oecd.org/dataoecd/36/38/32481170.pdf.

\textsuperscript{63} For an empirical analysis of the impact of corporate reforms on efficiency and profitability of Korean firms, see Kineung Choo et al., \textit{Performance Changes of the Business Groups Over Two decades: Technological...
V. A Still Vulnerable Korea Addresses the 2008-09 Crisis

A decade later, the Korean economy is facing another crisis. The current crisis has spilled over from the U.S. subprime mortgage crisis, rather than from the Southeast Asian currency and banking crises which started in 1997. Korea’s real GDP growth rate dropped to 2.2 percent in 2008 from higher than 5 percent level during the previous two years; investments in facilities and construction have been shrunk; and real wage rates have declined. In the external side of the Korean economy, the current account turned from positive to negative in 2008; the capital account reached a record level of deficits amounting to $51 billion in 2008 caused by massive foreign capital outflows from stock and bond investments; and international reserves dropped from $262 billion in 2007 to $201 billion at the end of 2008. The Korean banks suffered from an acute foreign currency liquidity crunch in 2008 as the Korean won depreciated more than 25 per cent against the dollar during the same year. Their troubles have prompted the Korean government to take action by announcing a $130 billion bailout fund (about 14 percent of GDP) in October 2008, while the Bank of Korea has been cutting the interest rate and buying their bonds since early 2008.

Capabilities and Investment Inefficiency in Korean Chaebols, 57 Econ. Dev. and Cultural Change 359 (2009).

64 See Table 1, infra. In 2008, Korea’s third and fourth quarter GDP growth rates (0.2 percent and -5.1 percent, respectively) were lower than the previous two quarters (5.8 percent and 4.8 percent, respectively). In 2009, the Korean economy showed a sign of turn-around with 0.1 percent, 2.6 percent, and 2.9 percent of real GDP growth rates for the first three quarters, respectively. The International Monetary Fund increased its projection of Korea’s growth from 1.5 percent to 3.6 percent on October 30, 2009.

65 Korean household and banking sectors have proven to be relatively less vulnerable to a decline in housing prices since 2007. The main reasons include that during 2005-2007, the Korean government controlled housing prices by imposing price ceilings on new apartments and reducing the price of publicly built housing, raised taxes on capital gains, and limited bank lending for mortgages. As of 2008, mortgages account for 40 percent of household liabilities in Korea, compared with the U.S. share of around 75 percent. See Myung-koo Kang, Global Financial Crisis and Systematic Risks in the Korean Banking Sector (Korea Economic Institute Academic Paper Series, Vol. 4, No. 35, 2009).

66 This rescue package includes debt guarantees. In addition, Korea’s Financial Services Commission (FSC) announced the creation of a 40 trillion won ($36.3 billion) Finance Stability Fund as a contingency plan and a backup measure to the bank capitalization fund of the 20 trillion won ($18.1 billion) fund.

67 The Bank of Korea (BOK) dropped the BOK base rate gradually from 5 percent in early 2008 to 2 percent in February 2009. The BOK changed its monetary policy target interest rate from overnight call rates to BOK base rates in March 2008.
The current crisis is different from the previous one in its origin, contagion channel, nature and scope. The Korean economy, however, is believed to be better prepared for this crisis. Korea has accumulated large international reserves, after a brief period of setback, reaching $254 billion as of September 2009, which is sufficient to pay out all short-term external debt (about $152 billion), compared to $30 billion (only $9 billion of the readily available portion) in 1997. Banks and non-bank financial institutions are now better capitalized with the BIS capital ratio over 13 percent, compared with lower than 7 percent in 1997. Korean firms have a sounder balance sheet structure with debt-equity ratio of lower than 200 percent, compared with more than 400 percent in 1997. Corporate finance is more transparent, corporate governance has improved vastly, and the legal system for corporate restructuring and workout is in better shape, thanks to the extensive reform efforts during the post-crisis period. However, the Korean economy has shown signs of vulnerability in a few areas – some are new and some are recurring.

First, the Korean economy is more exposed to foreign shocks now than a decade ago due to the implementation of liberalization measures during the post-crisis period. Foreign investors play a more important role in setting prices and leading market trends in the financial markets, and foreign firms have increased their shares of ownership.68 The spillover effects of foreign shocks to the domestic economy and businesses have increased significantly through this new channel of contagion. The Korean government needs to establish an efficient surveillance and monitoring system for foreign capital, especially volatile forms such as speculative and highly leveraged portfolio investment activities by foreign investors.

Second, Korea’s external sector has become weaker in recent years. The current account has reversed its position from surplus to deficits, and capital and financial accounts have turned to the negative position. Korea’s net portfolio investment balance shifted from surplus (net inflow) to deficit (net outflow) since 2006, more conspicuously during the current global financial crisis.

68 See Figure 6, infra.
Consequently, Korea’s external debt has increased significantly, reaching more than $380 billion, which is about 40 percent of Korea’s GDP. Furthermore, the maturity structure of the external debt has worsened; as the ratio of short-term debt in total external debt has increased beyond the 40 percent level, which is approaching the 1997-98 level.\(^\text{70}\) In the capital account, by composition, large deficits in foreign direct investment and portfolio investment positions have been compensated by large amounts of borrowing by banks. Branches of foreign banks in Korea have been observed to borrow a significant portion of total bank borrowing. This is reminiscent of over-borrowing by merchant banks during the pre-1997 crisis period, which was one of the important contributing factors for the 1997 crisis. The impact of the increased foreign bank penetration in emerging economies has been debated in the banking literature.\(^\text{71}\) To maximize the positive role and minimize the negative role of foreign banks, effective banking regulations and a surveillance system for foreign banks are called for.\(^\text{72}\)

Third, although the amount of international reserves has increased significantly, its maturity structure and asset/currency composition have not been managed efficiently. The increasing volatility of the Korean won with respect to the U.S. dollar and Japanese won have put significant burdens on the exports of Korean firms and their profitability. To defend the value of the Korean won in the foreign exchange market, the Bank of Korea has had to use the significant portions of its international reserves in recent months, which has created large volatility in the balance of international reserve assets. It will become important more than before to maintain a

\(^{69}\) See Figure 7, infra.

\(^{70}\) See Figure 8, infra.

\(^{71}\) For the implication of increased foreign bank penetration on monetary policy transmission mechanism in emerging economies, see Ji Wu, Alina Luca & Bang Nam Jeon, Foreign Bank Penetration and the Lending Channel in Emerging Economies: Evidence from Bank-level Panel Data (forthcoming 2010).

\(^{72}\) The Korean government has applied strict regulations on liquidity, risk management and internal management to domestic financial institutions participating in foreign exchange markets. (e.g., THE REGULATION ON SUPERVISION OF BANKING BUSINESS, enacted in April 1998 and amended in May 2007) However, as of May 2009, there are no specific rules or regulations that can properly monitor and supervise the real-time, short-term capital flows by domestic branches of foreign banks in Korea. See Kang (2009), ibid., p. 11.
stable level of international reserves and seek an optimal composition of international reserve assets by asset type and currency denomination.

Fourth, several new domestic agenda have emerged in the Korean economy while coping with the 2008-9 global economic crises. The new agenda include a need for further labor market reform, shift of the bank loan market from commerce loans to consumer loans, a credit card bubble, increasing household debt, speculation in the housing sector, and lackluster investments in the corporate sector. The government debt also increased to 35.6 percent of GDP due to the increased government deficit. Since the Korean economy has become more dynamic and interlinked among its sub-sectors, vulnerability built up in any sector of the economy could trigger bubble-bursting and/or self-fulfilling down spiral phenomena, which could lead to a crisis.

VI. Enhancing Regional Financial Cooperation in East Asia

In retrospect, there have been various sources of dissatisfaction within the region in dealing with the 1997-98 crisis, which played a role in enhancing cooperation on economic and financial agenda among Asian countries during the post-crisis period. Those main sources of dissatisfaction include: (1) unprepared financial liberalization which led to an excessive influx of short-term foreign capital and a lack of risk hedging vehicles, (2) volatile currency trading and speculative activities by Western investors and difficulty in establishing an appropriate exchange rate regime in light of such volatility and significant exchange rate misalignments, (3) inappropriate, excessive, and uniform one-size-fits-all prescriptions imposed by the IMF as so-called IMF conditionality.

74 The projected government deficit in 2009 is 51 trillion won, which is 5.0 percent of GDP. This is still lower than the U.S. (13.6%), Japan (9.9%), and U.K. (9.8%). The expected accumulated government debt in the end of 2009 is 366 trillion won (35.6% of GDP). Korea’s government debt ratio to GDP is still much lower than Japan (217%), Italy (115%), and the United States (87%).
ignoring country-specific elements of the root-causes of the crisis, the crisis situation, and crisis management, and (4) the lack of sufficient and prompt liquidity support from inside and outside the region in the early stages of the crisis and the lack of self-help mechanisms within the region.

A collective and regional approach is believed to serve better than an individualistic approach to manage crises. Some academics have argued that if East Asian nations had shown more solidarity in responding to the initial crisis in 1997, especially in defending the values of Asian currencies from the attack of speculative hedge funds, the severity of the crisis might have been reduced. Having suffered from the havoc of the economic crises of 1997, many countries in East Asia started to realize the urgent need for regional financial and monetary cooperation (also known as RFC/RMC) in order to prevent the reoccurrence of a similar crisis in the region in the future. The East Asian economies seem to be more prepared for the RFC/RMC initiatives by experiencing more intra-regional trade and investment in recent years and accumulating a significant amount of international reserve assets held by monetary authorities in East Asia.\(^76\) A regional framework has been taking shape as a consequence of the AMF proposal, the Manila Framework and the Chiang Mai Initiative. Here are brief accounts of each of the three initiatives.

In September 1997, Japan proposed an “Asian Monetary Fund” (AMF) to prevent the reoccurrence of another Asian financial crisis and to institutionalize financial cooperation among the countries in the region. Strong objections from the U.S. and the IMF, among other reasons, almost killed the idea of the AMF, leading to no further tangible progress toward establishing a regional monetary institution in East Asia — although there has been heated debate on how to

\(^76\) As of September 2009, China holds the world largest value of international reserves ($2,273 billion), followed by Japan ($1,052 billion), Russia ($413 billion), Saudi Arabia ($395 billion), Taiwan ($332 billion), India ($280 billion), and Korea ($254 billion). The four East Asian nations hold more than 45 percent of world total international reserve assets. See Data Template on International Reserves and Foreign Currency Liquidity, Int’l Monetary Fund, http://www.imf.org/external/np/sta/ir/colist.htm (last visited Feb. 14, 2010).
prevent and manage further crises in the region. The main argument was that it would overlap with the IMF and lead to an increased moral hazard problem.\textsuperscript{77}

In November 1997, a new framework for an improved RFC, called the “Manila Framework” was announced in a meeting of finance ministers and central bankers from 14 Asia-Pacific countries in Manila to discuss further responses to the Asian financial crisis.\textsuperscript{78} The Manila Framework included the following four initiatives: (1) regional surveillance of macroeconomic policies, foreign exchange policies, and relevant financial systems in member nations, (2) providing technical assistance for strengthening the financial sector in the region, (3) pushing for the restructuring of the IMF to cope with financial crises, including the enhancement of the effectiveness of the New Arrangement to Borrow and reconsidering the access limit within the IMF financial program for the provision of short-term loans to troubled economies, and (4) establishing cooperative financing support arrangements to stabilize Asian currencies and serve as a complementary financing source for IMF-supported programs to the Asian countries and for incremental international reserves of an economy in need of emergency liquidity support.\textsuperscript{79} The Manila Framework was reinforced by the New Miyazawa Initiative, which prepared funds amounting to ¥3 trillion (approximately US$30 billion) to be used for short-term liquidity support and long-term bilateral assistance to troubled member nations.

The search for regional financial arrangements gained momentum in May 2000, when the ASEAN + 3 finance ministers agreed to expand the existing network of swap arrangements by including all ASEAN countries, China, Japan, and Korea, designed to better withstand future

\textsuperscript{77} For more detail, see \textit{Asian Dev. Bank, Study on Monetary and Financial Cooperation in East Asia (Summary Report)} (May 2002), \textit{available at} http://www.mof.go.jp/jouhou/kokkin/tyousa/tyou056.pdf.

\textsuperscript{78} The 14 member nations of the Manila Framework are Australia, Brunei Darussalam, Canada, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand and the U.S.

financial crises by helping central banks of other countries in the region.\textsuperscript{80} The government-to-government currency swap deal provides that one country may borrow funds from the other country in the contract which has the effect of building up a country’s foreign exchange reserves.\textsuperscript{81}

This plan, called the Chiang Mai Initiative (CMI), is considered to be as a major step toward strengthening financial cooperation among the East Asian countries. The rationale of the CMI was to strengthen the self-help and support mechanisms in East Asia by establishing a regional financing arrangement to supplement existing international facilities. Subsequently, the ASEAN nations agreed, at the ASEAN+3 summit conference held in Singapore in November 2000, to expand the size of the multilateral currency swap facility from $200 million to $1 billion. Three bilateral currency swap agreements, between Korea and Japan ($7 billion, Korean won and Japanese yen based), Malaysia and Japan, and Thailand and Japan, for a total of $6 billion, were also signed in May 2001. In November 2001, Korea reached an agreement with China and Thailand to swap $2 billion and $1 billion, respectively, in case of an emergency. The 2007 ASEAN finance ministers meeting in Chiang Mai again agreed to explore an infrastructure financing mechanism for ASEAN. No concrete agreement has been reached yet, but now seems to be a good time to seriously explore this at the East Asia level.\textsuperscript{82}

To address the 2008-09 global financial crisis, the Korean government made $30 billion worth of currency swaps with the Federal Reserve of the United States in October 2008. It has also expanded the currency swap amounts with Japan ($20 billion) and China (worth about $26 billion, in local currency).

The ultimate objective for establishing an RFA/RFC in East Asia should be to prevent the recurrence of an economic crisis in the region, which is being prepared for collectively. A specific

\textsuperscript{80} See The Joint Ministerial Statement of the ASEAN+3 Finance Ministers Meeting, May 6, 2000, Chiang Mai, Thailand, \textit{available at} http://www.aseansec.org/635.htm (outlining a plan for increased cooperation across the region aimed at dealing with regional financial issues).

\textsuperscript{81} Id.

agenda for reform will include establishing an early warning system, strengthening regional surveillance, establishing new, quick financing facilities as a complement to the IMF facility, strengthening financial market supervision and regulation, and reshaping the G-8/G-20 led international financial architecture reform efforts by including capital controls and regulations of speculative hedge funds.

So far, the several ideas and proposals for establishing RFC/RMC have faced challenges or objections. The U.S. and European countries, along with the IMF, did not support the Japanese attempt to establish the AMF which will pool together the resources from Asian countries and play as a regional lender-of-last-resort (LLR). The main objections were the AMF’s functional overlap with existing institutions, such as the IMF and World Bank, and the possibility of a serious moral hazard problem caused by the so-called “soft conditionality”, and the lack of discipline among peer group nations in Asia. Just ten years later, these accusations proved to be inaccurate.

The advocates of the AMF stress that Asia needs a regional LLR because global emergency resources for East Asia, including the IMF and the World Bank, are insufficient, considering the size of the East Asian economies in the face of volatile capital flows in and out of the region. Other advantages which would be presented by an Asian LLR include: augmented sources of short-term liquidity to member nations in need of short-term assistance; reduced probability of financial contagion in the region, which has seen increasingly linked regional economies; the maintenance of exchange rate stability with less volatility; more accurate familiarity with member countries’ socioeconomic, political, and cultural background; and more reliable and updated peer reviews by insiders rather than by outsiders.

As an alternative to the AMF, a weaker form of RFC would be pooling international reserve assets and sharing them among member nations in the region. An example of the weak form of resource pooling would be similar to the bilateral/ multilateral currency swap agreements under the Chiang Mai Initiative. Another form would be a common decentralized reserve pooling mechanism, in which each member nation contributes a specified share of its international reserve
assets to a common pool. Each country would then be eligible to draw on the pool for an amount up to a predetermined multiple of the amount deposited. A participating nation in the resource pooling would then be able economize on their own reserve accumulation by gaining access to the total regional pool of liquid funds, and, as a member of the group, each country would gain some influence over the policies of other members.

There are several obstacles to overcome for successful regional financial cooperation among the East Asian nations. These include the diversity and heterogeneity of the countries’ economic characteristics, the wide spectrum of economic development and lack of economic convergence in the region, and the lack of political will and commitment to regional cooperation and integration. Another important but practical question is who will and is able to lead harmonious efforts toward establishing an effective and solid RFA/RFC in the region – Japan, China, or a collective form led by participants inside and/or outside East Asia.

Based on this discussion, we may derive some practical strategies for establishing an effective RFC scheme in the East Asian region in order to prevent the recurrence of a financial/economic crisis and large-scale contagion in the region. First, enhance the “political will” behind the implementation and commitment to the development of a self-help support mechanism beyond the CMI framework in the East Asian region. Second, create an environment of support from the IMF, ASEM (The Asia and Europe Meeting) and G-8/G-20 nations by pushing a regional RFC scheme, such as the CMI, to be structured to complement, not oppose, the IMF and other international institutions and eliminating moral hazard concerns by establishing a set of clear operational guidance and principles in extending financial facilities to member nations. Third, convince Westerners that a regional fund could monitor and respond to crises in the region more appropriately and swiftly than a worldwide one, and that the East Asian countries have the commitment, ability and know-how to establish and run an independent but supplemental RFC in East Asia by developing an effective regional surveillance system. Fourth, present a clear vision based on a gradual and progressive approach to expanding the CMI of the ASEAN+3 toward the
AMF, or some like organization, as an Asian LLR, and the eventual establishing of the Asian Monetary Union (AMU) in the future. Finally, seek stable and productive sources of foreign capital with long-term maturity, including FDI and bond-market financing, by providing a favorable and sound environment for foreign investors. A long-term strategy and vision will also lead the East Asian nations to an intensive form of regional monetary integration, which may create an Asian monetary union and a single Asian currency in the future. Korea may find a unique role in enhancing regional financial and monetary cooperation relations among the East Asian countries.

VII. Concluding Remarks

A recent study by Reinhart and Rogoff on the history of financial crises, covering eight centuries of data from England’s fourteenth-century default to the 2008-09 U.S. subprime mortgage crisis, found that financial or economic crises are a universal phenomenon and frequently recurring common events. East Asian countries were hit hard by the 1997-98 financial crisis. A decade later, they have been suffering again from the current global financial/economic crises. Since financial crises are common and repeating phenomena, we may not be able to completely avoid another round of crises in the years to come. This is a great challenge facing the global economy, and the prevention of the recurrence of future crises is urgently called for.

This paper focused on the Korean crises, which experienced the worst damage as well as the most successful recovery from the 1997 crisis, and discussed the success and failure of post-crisis reform efforts while identifying vulnerable areas which need further reform. I also discussed

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specific lessons to be learned from Korea’s experience during the 1997-98 crisis in order to help prevent the outbreak of similar financial crises in the future.

These specific lessons are, first, to monitor international capital flows carefully and to implement efficient international debt management policies to avoid currency- and maturity-mismatch; second, to maintain competitive, efficient and well-regulated banking and financial systems that are protected from international contagion; third, to establish effective resolution mechanisms for non-performing assets and loans, such as the Korea Asset Management Corporation (KAMCO); and fourth, to enhance regional financial cooperation among the East Asian countries, such as a renewed Chiang Mai Initiative to provide short-term liquidity support when crises hit the region, or, alternatively, setting up an Asian Monetary Fund (AMF) as a lender of last resort in the Asian region. Although past financial crises may share many commonalities, each crisis has been shown to have idiosyncratic features. There are no one-size-fits-all prescriptions for crisis management policies. The Korean case has provided a good example for this golden rule. IMF conditionality, which did not take into account the unique nature of financial, corporate and social systems in Korea, inflicted unjustifiable harm to the most vulnerable groups of people and businesses in Korea during the post-crisis reform period.

As evidenced in recent experiences of Korea’s responses to the current financial crisis, Korea needs to establish an efficient management mechanism for the capital account, especially short-term portfolio investment flows, and international reserve assets. Proper surveillance and regulation of foreign banks in Korea are called for. The Korean word for “crisis” is “ui gi,” combining the words for “danger” and “opportunity.” When we learn lessons from our past experiences and mistakes, we will be able to convert a crisis of danger into the blessing of opportunity.
I. Macroeconomic indicators of Korea, 1994-2008

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<tr>
<td><strong>I. Domestic sector: Macro fundamentals</strong></td>
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<tr>
<td>Real GDP growth rate, %</td>
<td>7.9</td>
<td>8.6</td>
<td>6.4</td>
<td>4.8</td>
<td>-5.7</td>
<td>8.7</td>
<td>8.1</td>
<td>4.0</td>
<td>6.7</td>
<td>3.1</td>
<td>4.6</td>
<td>4.0</td>
<td>5.2</td>
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<td>2.2</td>
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<tr>
<td>Gross fixed investment growth rate, %</td>
<td>12.5</td>
<td>13.1</td>
<td>8.4</td>
<td>-2.3</td>
<td>-22.9</td>
<td>8.3</td>
<td>12.2</td>
<td>-0.2</td>
<td>6.6</td>
<td>4.0</td>
<td>2.1</td>
<td>2.4</td>
<td>3.6</td>
<td>4.0</td>
<td>-1.7</td>
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<tr>
<td>Inflation rate (CPI, %)</td>
<td>6.3</td>
<td>4.5</td>
<td>4.9</td>
<td>4.4</td>
<td>7.5</td>
<td>0.8</td>
<td>2.3</td>
<td>4.1</td>
<td>2.8</td>
<td>3.5</td>
<td>3.6</td>
<td>2.8</td>
<td>2.2</td>
<td>2.5</td>
<td>4.7</td>
</tr>
<tr>
<td>Unemployment rate, %</td>
<td>2.5</td>
<td>2.1</td>
<td>2.0</td>
<td>2.6</td>
<td>7.0</td>
<td>6.3</td>
<td>4.1</td>
<td>3.8</td>
<td>3.1</td>
<td>1.7</td>
<td>3.7</td>
<td>3.5</td>
<td>3.2</td>
<td>3.2</td>
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<tr>
<td>Government budget surplus/deficit, % of GDP</td>
<td>0.4</td>
<td>0.3</td>
<td>0.2</td>
<td>-1.4</td>
<td>-3.5</td>
<td>-2.3</td>
<td>1.0</td>
<td>1.1</td>
<td>3.1</td>
<td>1.0</td>
<td>0.6</td>
<td>0.4</td>
<td>0.4</td>
<td>3.2</td>
<td>1.3</td>
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<td>Interest rate, % (call rate), year end</td>
<td>14.1</td>
<td>11.1</td>
<td>12.5</td>
<td>21.3</td>
<td>7.0</td>
<td>4.8</td>
<td>5.3</td>
<td>4.7</td>
<td>4.2</td>
<td>3.8</td>
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<td>3.3</td>
<td>4.2</td>
<td>4.8</td>
<td>3.3</td>
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<td>Stock price index, KOSPI 1980.1.4 = 100</td>
<td>965</td>
<td>935</td>
<td>833</td>
<td>655</td>
<td>406</td>
<td>807</td>
<td>734</td>
<td>573</td>
<td>757</td>
<td>680</td>
<td>833</td>
<td>1074</td>
<td>1352</td>
<td>1713</td>
<td>1533</td>
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II. External sector: Trade, capital flows, int’l reserves, external debt, exchange rates

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<tbody>
<tr>
<td>Exports, Sbil.</td>
<td>95</td>
<td>125</td>
<td>130</td>
<td>139</td>
<td>132</td>
<td>145</td>
<td>176</td>
<td>152</td>
<td>163</td>
<td>197</td>
<td>258</td>
<td>289</td>
<td>332</td>
<td>379</td>
<td>433</td>
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<tr>
<td>Imports, Sbil.</td>
<td>98</td>
<td>129</td>
<td>145</td>
<td>142</td>
<td>91</td>
<td>117</td>
<td>159</td>
<td>138</td>
<td>149</td>
<td>175</td>
<td>220</td>
<td>256</td>
<td>304</td>
<td>350</td>
<td>427</td>
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<tr>
<td>Current a/c balance, Sbil. (% of GDP)</td>
<td>-4.0</td>
<td>-8.7</td>
<td>-23.1</td>
<td>-8.3</td>
<td>0.4</td>
<td>24.5</td>
<td>12.3</td>
<td>8.0</td>
<td>5.4</td>
<td>11.9</td>
<td>28.2</td>
<td>15.0</td>
<td>5.4</td>
<td>6.0</td>
<td>-6.4</td>
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<tr>
<td>Capital and financial a/c balance ($bil.)</td>
<td>10.3</td>
<td>16.8</td>
<td>23.3</td>
<td>1.3</td>
<td>-3.2</td>
<td>2.0</td>
<td>12.1</td>
<td>-3.4</td>
<td>6.3</td>
<td>13.9</td>
<td>7.6</td>
<td>4.8</td>
<td>18.0</td>
<td>7.1</td>
<td>-50.9</td>
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<tr>
<td>a. FDI balance ($bil.)</td>
<td>-1.7</td>
<td>-1.8</td>
<td>-2.3</td>
<td>-1.6</td>
<td>0.7</td>
<td>5.1</td>
<td>4.3</td>
<td>1.1</td>
<td>-0.2</td>
<td>0.1</td>
<td>4.6</td>
<td>2.0</td>
<td>-4.5</td>
<td>-13.8</td>
<td>-10.6</td>
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<tr>
<td>b. Portfolio investment balance ($bil.)</td>
<td>6.1</td>
<td>11.6</td>
<td>15.2</td>
<td>14.3</td>
<td>-1.2</td>
<td>9.2</td>
<td>12.2</td>
<td>6.7</td>
<td>0.3</td>
<td>17.3</td>
<td>6.6</td>
<td>-3.5</td>
<td>-23.2</td>
<td>-26.1</td>
<td>-15.4</td>
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<tr>
<td>c. Borrowing by banks ($bil.)</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>10</td>
<td>73</td>
<td>68</td>
<td>61</td>
<td>51</td>
<td>58</td>
<td>68</td>
<td>74</td>
<td>83</td>
<td>137</td>
<td>193</td>
<td>172</td>
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<td>International reserves, Sbil.</td>
<td>20</td>
<td>25</td>
<td>32</td>
<td>32</td>
<td>52</td>
<td>74</td>
<td>96</td>
<td>102</td>
<td>121</td>
<td>155</td>
<td>199</td>
<td>210</td>
<td>239</td>
<td>262</td>
<td>201</td>
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<tr>
<td>External debt, Sbil. (% of GDP, [short-term %])</td>
<td>90</td>
<td>120</td>
<td>157</td>
<td>174</td>
<td>164</td>
<td>153</td>
<td>148</td>
<td>142</td>
<td>157</td>
<td>172</td>
<td>188</td>
<td>260</td>
<td>382</td>
<td>380</td>
<td>380</td>
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<tr>
<td>Exchange rate (Won/$), end of year</td>
<td>788</td>
<td>776</td>
<td>845</td>
<td>1695</td>
<td>1204</td>
<td>1138</td>
<td>1265</td>
<td>1314</td>
<td>1186</td>
<td>1193</td>
<td>1035</td>
<td>1012</td>
<td>930</td>
<td>936</td>
<td>1260</td>
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86 Except where otherwise noted, these tables and figures are the author’s aggregation of statistics published in The Bank of Korea, Monthly Statistical Bulletin, various issues. This data is available at http://ecos.bok.or.kr/EIndex_en.jsp.
Table 2. Financial reform in Korea: Restructuring of financial institutions, 1997-2006

<table>
<thead>
<tr>
<th>Types of financial institutions</th>
<th>Total no. of institutions (as of Dec. 1997)</th>
<th>Type of resolution</th>
<th>New entry</th>
<th>Total no. of institutions (as of Oct. 2006)</th>
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<td></td>
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<td>License revoked</td>
<td>Merger</td>
<td>Others*</td>
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<tr>
<td><strong>Banks</strong></td>
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<tr>
<td>Banks</td>
<td>33</td>
<td>5</td>
<td>11</td>
<td>-</td>
</tr>
<tr>
<td>NBFIs**</td>
<td>2070</td>
<td>164</td>
<td>177</td>
<td>536</td>
</tr>
<tr>
<td><strong>Merchant banks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(MBCs)</td>
<td>30</td>
<td>22</td>
<td>7</td>
<td>-</td>
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<tr>
<td><strong>Securities co.</strong></td>
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<tr>
<td><strong>Insurance co.</strong></td>
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<tr>
<td><strong>Investment trust co</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>(ITCs)</td>
<td>32</td>
<td>7</td>
<td>5</td>
<td>-</td>
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<tr>
<td><strong>Mutual savings banks</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>(MSBs)</td>
<td>231</td>
<td>107</td>
<td>28</td>
<td>1</td>
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<tr>
<td><strong>Credit unions</strong></td>
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<tr>
<td></td>
<td>1,666</td>
<td>2</td>
<td>122</td>
<td>527</td>
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<td><strong>Leasing companies</strong></td>
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<td></td>
<td>25</td>
<td>11</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,103</td>
<td>169</td>
<td>188</td>
<td>536</td>
</tr>
</tbody>
</table>

Notes: * includes dissolution and asset transfers to bridge institutions. ** Non-bank financial institutions.

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87 PUB. FUNDS MNGMNT. COMM., MIN. OF FIN. AND ECON., WHITE PAPER ON PUBLIC FUNDS (2007).
Table 3. Sources and uses of public funds in Korea, 1997-2006\textsuperscript{88}  

<table>
<thead>
<tr>
<th>Types of financial institutions</th>
<th>KAMCO*</th>
<th>KDIC** and others</th>
<th>Total</th>
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<tr>
<td></td>
<td>Purchase of NPLs</td>
<td>Recapitalization</td>
<td>Liquidity injection</td>
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<tr>
<td><strong>Banks</strong></td>
<td>24.6</td>
<td>34.0</td>
<td>13.9</td>
</tr>
<tr>
<td><strong>NBFIs</strong></td>
<td>11.8</td>
<td>29.5</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Merchant banks</strong></td>
<td>1.3</td>
<td>2.7</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Insurance co</strong></td>
<td>1.8</td>
<td>15.9</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>Securities co and inv’t trust co</strong></td>
<td>8.5</td>
<td>10.9</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Mutual savings banks</strong></td>
<td>0.2</td>
<td>0.0</td>
<td>0.4</td>
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<tr>
<td><strong>Credit union</strong></td>
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<td>0.0</td>
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<tr>
<td><strong>Others</strong></td>
<td>2.4</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38.8</strong></td>
<td><strong>63.5</strong></td>
<td><strong>18.5</strong></td>
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</tbody>
</table>

Notes: * The Korea Asset Management Corporation, ** The Korea Deposit Insurance Corporation

\textsuperscript{88} Id.
Figure 1. Korea's real GDP growth rates (%), 1994-2008
Figure 2. The saving-investment relations and the current account balance in Korea, 1980-2008
Figure 3. The impact of financial reform in Korea: Remove toxic assets and improving BIS capital ratio

Notes: NPL ratio (the first bar) is the non-performing loan ratio for the entire financial industries (%), and BIS ratio (the second bar) is the Bank of International Settlement capital standard ratio of risk-bearing capital to the risk-weighted assets.
Figure 4. The KAMCO’s activity: NPL purchases and NPL balances\textsuperscript{89}

\textsuperscript{89} KAMCO, White Paper on Non-Performing Loans Resolution Fund 423 (2004).
Figure 5. Injection and recovery of public funds in Korea, 1998-2006

Notes: Units are: Trillion Korean won for the Use of Public Fund and Recovery; Percent for the Recovery Rate.

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Figure 6. Share of Foreign Ownership in Stock Market, Bond Market, and the Banking Sector in Korea*91

Notes: * the market share of foreign banks in Korea using the bank asset base.

Figure 7. Korea’s net portfolio investment balance, 1994-2008
Figure 8. Korea’s external debt: Total amount ($billion) and short-term debt (% of total)