

Post-Crisis Financial Developments in Korea: Implications for Monetary Policy^{*}

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A rapid macroeconomic turnaround and lingering financial market uncertainties since the Asian Economic Crisis of 1997 are seen as conflicting but consistent indicators of the fundamental weakness still existent in Korea's financial markets. Drastic changes in firms' financing strategy, volatile capital movements, and loose financial supervision are some of the examples of inappropriately applied macro measures to a market not yet fully normalized. Given the important role a robust financial sector plays in a developing economy and the limited role of the banking sector in bringing forth a mature market, the missing link for engendering economic efficiency and financial stability in Korea is seen as the absence of a long-term capital market. Heavier reliance on poorly supervised capital markets in the wake of the crisis exaggerated the business cycle and caused a sense of complacency that thwarted institutional reform. As the overall financial market anomalies found posterior to the crisis are due to the lack of market support, future macro policies need to focus particularly on promoting a deeper and broader financial market. Furthermore, poor risk evaluations and currency and maturity mismatch problems need to be resolved through the strengthening of market mechanisms.

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1. INTRODUCTION

In the wake of its worst financial crisis in history, Korea experienced significant economic changes, including a greater integration with global financial markets and a brief surge in the use of direct financing. Each of these developments has a significant implication on the formulation of monetary policy. In this paper, we investigate the changes that took place in Korea's post-crisis financial market, analyze the causes for such developments, and seek out policy implications. Specifically, we gather evidence to show how the fragile market system continued to threaten the economic stability in Korea's increasingly open market environment with sizable capital flows. It is clear that fundamental problems of the market, not increased market liberalization or inappropriate macro measures per se that exacerbated the unstable economic conditions in Korea after the crisis, by restraining policy options and increasing the economy's vulnerability to external shocks.

Two major changes were implemented in the Korean financial markets after the crisis. First, the overriding concern for restructuring needs after the crisis prompted the monetary authority to pursue an interest rate policy that relieved the borrowing cost for surviving firms. In fact, the low interest rate policy after the crisis turned out to be the most important policy tool to resuscitate the economy from a major shock. Given that most financial institutions were struggling to preserve their capital adequacy, the lower interest rates created a surge in equity financing, correcting financial imbalances for most firms. Clearly, a low interest rate helped clean the balance sheet of most financial institutions as well as to help firms suffering from maturity mismatches and high leverage problems by providing them with easy capital injection. Second, to satisfy the shortage of liquidity after the crisis, Korea's financial markets were fully opened to foreign investors. However, the increased capital flow from the opening of markets posed a serious policy challenge for the authorities in the form of increased sterilization costs, leading to weaker fiscal positions. Greater instability in

the capital account largely resulted in increasing uncertainties in the financial market, posing serious challenges to the monetary authorities.

Both of these developments turned out to be much too overbearing on Korea's fragile financial markets. Korea's markets were not equipped with the capacity to finance the huge amount of funds nor did it possess the proper risk evaluation measures. The initial benefits of increased capital flows resulted in imposing a greater burden on the financial system, further delaying market revitalization. The bullish stock market engendered by interest rate cuts only hindered the policymakers by inducing capital flows before there were visible improvements made in the financial system.

Therefore, a detailed analysis of what exactly happened after the crisis is important and necessary. Quantitative analysis alone cannot highlight the inherent problems of a crisis economy after the major shock. Without properly understanding the turn of events in conjunction with the policy responses that took place, policy recommendations henceforth can be misleading. So the rest of this paper consists of analyzing the changes that took place in the capital markets posterior to the economic crisis, particularly surrounding the Daewoo crisis, followed by a discussion on their implications for monetary policy. This paper also attempts to address the need to deal with volatile capital flows under vulnerable and unstable financial conditions, as well as the constrained policy responses associated with market fragility. Ultimately, this paper focuses on the need and the method to build a broader and deeper financial market to better cope with increased uncertainty surrounding an emerging economy. Faced with this urgent task, the authorities should act beyond the usual response of implementing short-term policy measures.

2. POST-CRISIS MARKET TRENDS

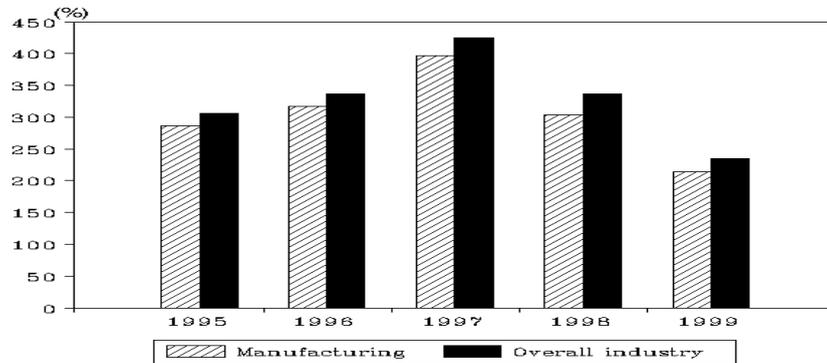
Of the many changes that took place in the Korean financial system after the crisis, there are three notable trends. First, prior to the Daewoo crisis,

there was a rapid transition to direct financing with the boom in stock market, which later turned into gradual market paralysis and lingering market instability. Second, after the Daewoo crisis, there was a surge in short-term lending and the collapse of the bond markets. Third, irrespective of the Daewoo crisis, the post crisis period was dominated by an influx of foreign capital. This paper documents in the following section these features of the Korean financial markets since the economic crisis and what compounding effect they had on the fragile market structure.

2.1. Before the Daewoo Crisis: Volatile Financing Pattern and Increased Moral Hazard

After the Asian economic crisis and prior to the Daewoo crisis, the markets faced an increased need for corporate and financial restructuring. Consequently, there occurred a rapid transition to direct financing as prompted by the restructuring efforts. Both heavily leveraged firms and NPL plagued banks were forced to reduce the debt ratio and raise capital adequacy ratio respectively as a part of their restructuring efforts. Direct financing emerged not only as a tool to satisfy financial needs but also as a means to fix the balance sheet of most firms and financial institutions.

To the extent that they were required to fix some of the balance sheet problems (Figure 1), bank loans no longer became a feasible choice for most chaebols who were already highly leveraged. Further, banks became increasingly risk conscious and put greater emphasis on maintaining capital adequacy. To be more specific, increased emphasis on the capital adequacy of commercial banks prompted a substantial change in lending practices. Besides the drastic reduction in the number of commercial banks in the banking sector, increasing awareness of credit risks prompted banks to change the composition of their assets in favor of safer public bonds and household loans, significantly reducing the size of corporate loans. As a result, conditions favorable for direct financing prevailed after the crisis as the traditional banking sector tried to catch up with new prudential

Figure 1 Debt/Equity Ratio of Manufacturing and the Overall Industry

Source: The Bank of Korea, *Financial Statement Analysis*.

regulations and began to fix their balance sheets.

The booming capital market posterior to the crisis helped the corporate sector reshape their financial status by reducing their debts through debt-equity swaps or spin-offs, while making it easier for banks to hold newly created public debts in order to reduce the size of NPLs. In doing so, the public and the banking sector seemingly dealt with the problems in the corporate sector without taking on increased risks. Demand for new loans was satisfied with equity financing. Also, most big borrowers of chaebols were burdened with lessening their huge debt ratio as part of restructuring efforts and adequacy-constrained banks experienced difficulty finding eligible customers for their loans. Thus, equity financing turned out to be the only viable method of fixing the balance sheet by making it feasible to raise money without serious difficulty. In short, both the external conditions and the internal constraints placed on the supply and demand side of market players resulted in a quicker rebound in the stock and public bond market. However, fixing the balance sheet with the aid of the stock market seriously delayed the necessary voluntary efforts for restructuring. Ironically, fixing the balance sheet of most banks resulted in serious malfunctions in the private bond market and weakened the primary function of financial intermediation by making bankers excessively risk-conscious.

This tendency contributed to an excessive use of short-term money markets and a virtual paralysis of the long-term bond market, which resulted in serious maturity mismatch on a grand scale. In other words, shoring up weak banking sector through restructuring efforts resulted in seriously burdening the capital markets that were plagued with poor infrastructures and weak market discipline.

In addition, before the Daewoo debacle, improving economic conditions prompted a sizable capital inflow, providing favorable conditions for equity financing. Foreign borrowing began to be normalized rapidly in a procyclical manner, and stocks soon became the primary venues for raising money. Both the low interest rate policy and exogenous post-crisis situation largely contributed to this change, not the change in firms' financing strategy or the normalization of stock market functions per se.

Drastic changes in financial flows made a significant impact on the economy. The relative importance of capital markets in the economy, especially as a dominant transmission channel of monetary policy, increased significantly in the initial phase of the post-crisis period from the second half of 1998 to the first half of 1999. Increased reliance on inherently volatile capital markets with poor financial supervisory support implied greater chance of having boom and bust cycle. In fact, with the world stock market in a bullish trend, money flowed into stock type beneficial certificates and mutual funds in early 1999, and speculative institutional investors played an increasingly visible role in the financial market. Accordingly, any disruptions in this increasingly important transmission channel had the strong potential to ignite a serious financial accelerator effect. In transition, the pivotal function of maturity transformation and risk evaluation of financial intermediaries were largely relegated to the capital market, which was in no position to handle this function given that most bonds have three-year maturity and were poorly assessed by the evaluation agencies. Except for those who can issue overseas instruments, others face serious maturity and currency mismatch problems due to faulty domestic financial market: since CPs could not be sold, short-term needs for liquidity were largely satisfied

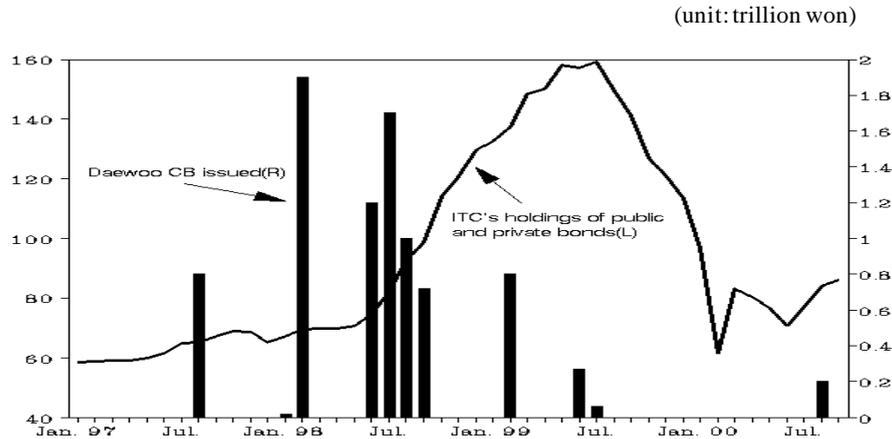
with long-term financing. In sum, heavier reliance on the stock market for much of its restructuring needs as well as problems in the bond market and the traditional banking sector posed potentially serious threats to the stability of an economy.

The aforementioned post-crisis financial trends and their consequent effects were caused by domestic incentives to make heavy use of direct financing, while the banking sector underwent serious restructuring. The shift toward direct financing did not occur on fully normalized situations on the micro level. The large chaebols who successfully weathered the shocks of financial crisis began to embark on expanding their own market share in the capital market without fully addressing their structural problems. On surface, with the introduction of mutual funds¹⁾ and other related products, financial activities quickly resumed among the Chaebols with direct financing. Yet the developments in the capital market turned out to be a banking sector equivalent of the pre-crisis trend in which lax supervision of financial institutions led to risky investments, and finally a massive paralysis of the non-banking sector.

As expected, indiscriminate use of equity financing by riskier firms went largely unchecked in the market. Cash-strapped Daewoo issued a huge amount of CPs immediately after the shock to finance their troubled operations as banks became increasingly wary about extending new loans (Figure 2). Even though it became too late, we finally reached a point in July 1999 that even a booming stock market could not satisfy the liquidity needs of the unpromising one. In fact, the markets failed to signal impending problems in advance. Even extra premiums on their corporate bonds immediately after the crisis were positively accepted by ITCs that regarded Daewoo under the implicit guarantee by the authority. Certainly, favorable developments in the financial market simply disguised the potential risks associated with chaebol's failure that proved to be inevitable unless economic conditions had continuously improved. The booming stock

¹⁾ Mutual funds were introduced in Korea in September 1998 as part of a new legislature regarding securities and ITC activities

Figure 2 Portfolio Management of Investment Trust and Daewoo's CB Issued



Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*, various issued.

market and increased competition prompted most money managers including ITCs to become increasingly aggressive and prompted them to hold larger share of Daewoo bonds, even with apparently increasing credit risks.

2.2. After Daewoo Crisis: Increased Short-term Use of Money and Collapse of Bond Market

While restructurings in the corporate sector and concerted policy efforts such as the lowering of interest rates to foster adequate environment for restructuring characterize the pre-Daewoo financial developments, the post-Daewoo period is dominated by a collapse of one of the major chaebols. Lack of proper risk evaluations in financial markets resulted in grand scale corporate failure that thwarted the functioning of financial markets. The Daewoo debacle interrupted the seemingly positive development and a new vicious circle started from the depressed private bond market. As the market suddenly lost confidence in corporate bonds and in the investment trust companies (ITCs) that held these bonds after the apparent failure of

Daewoo, investors began to redeem their investments and the ITCs rapidly began to lose their market base for survival. As expected, most directly hit by the Daewoo incident are ITCs with substantial holdings of Daewoo bonds and CPs, and the private bond market (Figure 2). What was once regarded as a bargain was suddenly turned into a risky investment whose value could not be assessed in the market, partly due to the inability to devise a clear loss-sharing principle. Further, ITCs of chaebol subsidiaries made it especially difficult to apply any bailout schemes due to serious concerns for using public money for private investment failures.

A sudden loss of market confidence abruptly ended the trend in direct financing and banks were again regarded as a safer place to put money. Financial intermediation was largely confined to the traditional banking sector that can easily resort to governmental support. Also, money was managed with a shorter investment horizon. As it happened, the susceptibility of financial market stability to domestic shock turned out to be far worse than that of contagion effect as the former involved the collapse of the private bond market. Sudden reversal in the mode of corporate financing implies equivalent changes in the portfolio adjustment in other sectors, and massive withdrawal of funds took place in ITC bond type investments as well as trust accounts at most banks.

In the private bond market, redemption volume began to exceed new issuances after August 1999 when Daewoo's trouble became more serious. Entering 1999, debt-financing was largely suppressed due to the limits of bond issuance that were imposed on top five chaebols as they began to monopolize the bond markets in 1998. This implied greater financing difficulty for troubled firms that could not raise capital in the bond as well as stock market. Accordingly, as volatile conditions prevailed in the financial sector, the already shrunk bond market suddenly became paralyzed after a sudden degradation of Daewoo related bonds. Banks' balance sheets were also affected in favor of a heavier reliance on securities investment and short-term use of call loans. ITCs heavy investment in CBs as prompted by the booming mutual fund market precipitated a market paralysis later.

Table 1 Offerings of Corporate Bonds Maturity

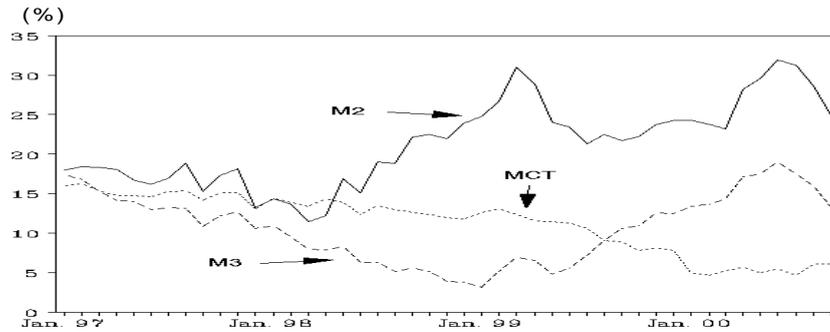
(unit : million won, %)

During	Less than 4 years		4 years~less than 5 years		5 years and over		Total	
	Cases	Amount	Cases	Amount	Cases	Amount	Cases	Amount
1995	2,773	22,169,230	6	50,000	44	1,379,000	2,823	23,598,230
1996	3,167	28,767,914	9	70,000	30	1,067,000	3,206	29,904,914
1997	2,216	33,366,821	3	27,000	27	928,300	2,246	34,322,121
1998	1,091	55,670,299	1	45,000	5	285,000	1,097	56,000,299
1999	771	28,768,444	6	290,000	26	1,613,000	803	30,671,444
2000.01	36	920,830	2	220,000	3	150,000	41	1,290,830
2000.02	39	4,479,500	-	-	6	2,327,100	45	6,806,600
2000.03	99	4,869,354	1	21,913	10	1,223,656	110	6,114,923
2000.04	66	3,931,697	4	150,000	16	894,200	86	4,975,897
2000.05	38	2,295,000	-	-	4	520,800	42	2,815,800
2000.06	63	3,800,912	3	285,000	12	845,100	78	4,931,012
2000.07	76	4,962,560	2	208,000	21	1,571,300	99	6,741,860
2000.08	91	4,992,304	-	-	3	429,000	94	5,421,304
2000.09	37	2,614,700	1	30,000	8	316,000	46	2,960,700

Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*, various issues.

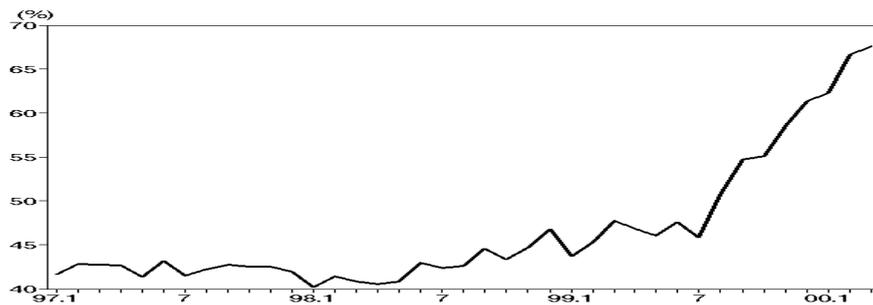
Massive flight from the bond market also resulted in drastic changes in money demand. The demand for M2 increased sharply as investors withdrew their deposits at non-bank institutions and the reverse process of credit creation and financial deleveraging began to be activated. As expected, M3 dropped precipitously while M2 shot up due to reduced financial disintermediation (Figure 3). Failure in the non-banking sector activities dealt a crucial blow to corporate financing that became increasingly dependent on capital markets, adding to already serious financial difficulties. As the basis of the demand for corporate bonds evaporated, non-banking activities virtually stopped after the Daewoo failure (Figure 4). Firms could not raise funds at capital markets and began to sell off their holdings of bonds, which resulted in an even more lopsided excess supply of bonds. Bonds as well as stock market suffered a serious setback because almost everyone tried to get away from the market as quickly as possible. Even with the

Figure 3 Divergence among Monetary Indicators



Source: The Bank of Korea, *Monthly Bulletin*, various issues.

Figure 4 Ratio of Banking Sector to Non-banking Sector Deposits



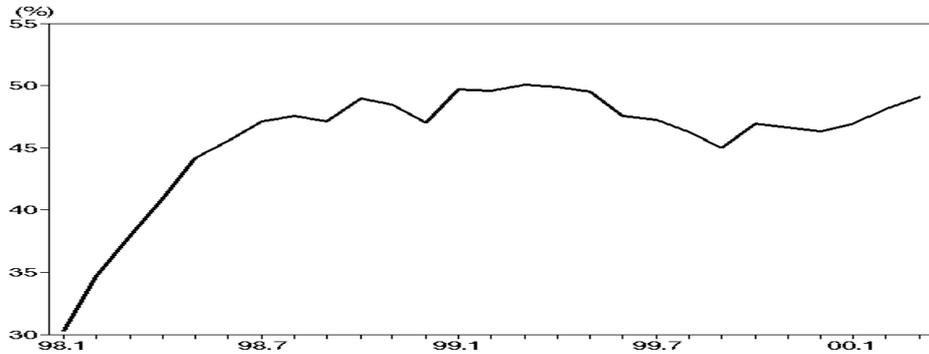
Note: Deposits of banking include total deposits (demand deposit + time & savings), and net issue of CD. Deposits of Non-banking include deposits of investment institutions and excludes deposits of development institutions, deposit institutions, and insurance institutions.

Source: The Bank of Korea, *Trends of Daily Financial Market*, various issues.

authorities' guarantee, most suspected that it would be safer to withdraw early.

Further, Ingering uncertainty about financial market conditions has also channeled funds towards shorter maturity instruments, even in the protected banking sector (Figure 5).²⁾ Strong appetite for safety resulted in serious

²⁾ We observe an inherent instability in the sectoral flow of funds. A significant reduction in the

Figure 5 Ratio of Short-term Deposits to Bank Deposits¹⁾

Note: 1) (demand + time & savings deposits) / total deposits with maturities less than one year.

mismatch of maturity in corporate financing and increased risks of financial institutions. Incurred by the Daewoo fallout, abrupt changes in the demand for money set off massive flight to quality and serious capital flow reversal.

As such, the causal chain of events after the Daewoo shock illustrates the dynamics of financial vulnerability and the shock propagation mechanism. Risk factors in the balance sheet of non-bank financial institutions became suddenly exposed and the deleveraging process kicked in immediately with massive disruptions in financial intermediation. It almost destroyed the private bond market and a loss of confidence led the financial process to a complete halt.

2.3. Increased Foreign Influence: Volatile, Pro-cyclical Portfolio Investment

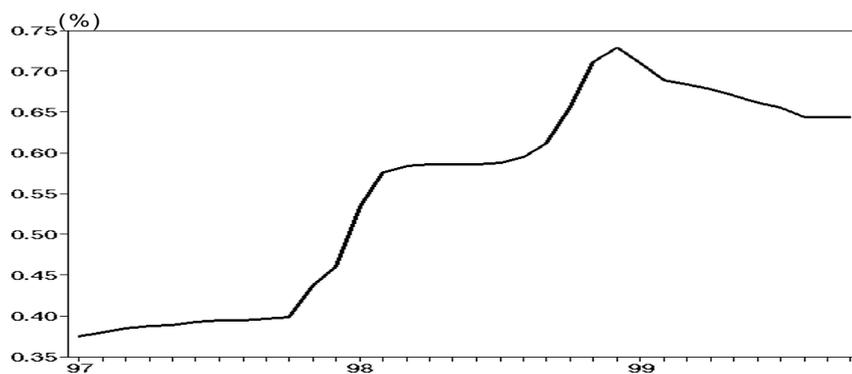
Another visible post-crisis financial development is the increased influence of foreign factors. Aside from the Daewoo crisis, increased foreign influence

flow to the non-banking sector was observed. Sectoral volatility in money flow indicates a fundamental weakness in the financial market, where any small shock in the market can easily turn into an overall shock with even greater system risks.

became a concern for policymakers. In common with the fragile domestic capital markets, which could not handle major domestic shocks, Korea's shallow foreign exchange markets were ill equipped to handle a strong surge of capital inflow, necessitating the intervention of the authority in its sterilization and reserve building. In fact, the "fear of floating" in terms of appreciation of domestic currency was real, as there was concern that the current account surplus might shrink and domestic restructuring efforts could become enervated.

Increased financial opening can be measured in various ways. First, the impact of U.S. short-term interest rates on Korean interest rates has increased sharply. As illustrated in Figure 6, the effect of a percentage change in U.S. 3-month treasury bill rates on the three year corporate bond yield rose from less than 0.4 in 1997 to a peak of over 0.7 in late 1998, before leveling off to around 0.65 in 1999. Also, as reported in Table 2, the effect of foreign stock participation appears to have increased. In particular, Figure 7 suggests that the effect of an increase in foreign stock investment/GDP on the Korean stock price rose from close to zero in 1997, to over 2 percent by 1999.

Figure 6 Effect of Changes in US Short-term Interest Rate on Korean CB Yield



Note: 1) The sample period is from Jan. 90 to Oct. 99. Parameter updating uses Kalman-Filtering method.

2) Trends of regression coefficients of $CB = f(\text{US treasury short-term rate, won/dollar devaluation, growth rate of M3, inflation})$.

Table 2 Foreigner's Stock Investment

(unit: 100 million dollar, %)

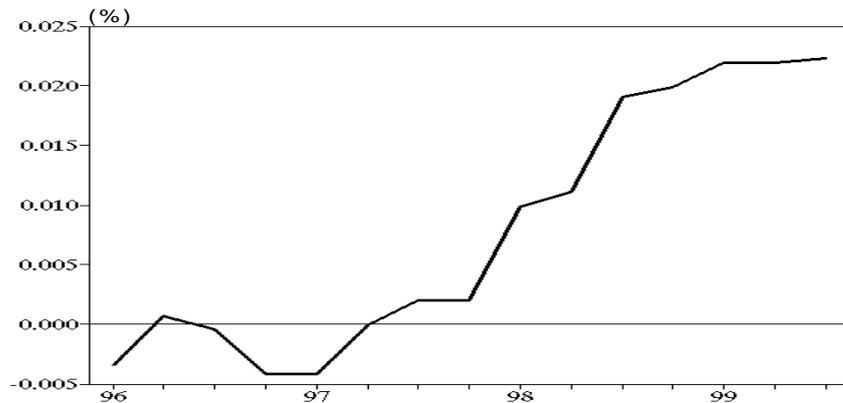
		1998	1999	2000
KOSPI	Total capitalization(A)	1,144.5	3,071.2	1,487.1
	Foreign holdings(B) ¹⁾	212.9	673.0	447.3
	Ratio of foreign holdings(B/A)	18.6	21.9	30.1
KOSDAQ	Total capitalization(A) ²⁾	65.6	933.9	229.5
	Foreign holdings(B) ¹⁾	2.2	70.0	16.1
	Ratio of foreign holdings(B/A)	3.4	7.5	6.9
Bond	Total capitalization(A)	2,774.3	3,202.3	3,309.7
	Foreign holdings(B)	8.0	10.2	5.4
	Ratio of foreign holdings(B/A)	0.3	0.3	0.2

Note: 1) As of year-end.

2) Figures including holdings related with direct investment.

3) Preferred stocks of Peace bank and Ssangyong construction company were excluded in KOSDAQ evaluation since June 26th, 2000.

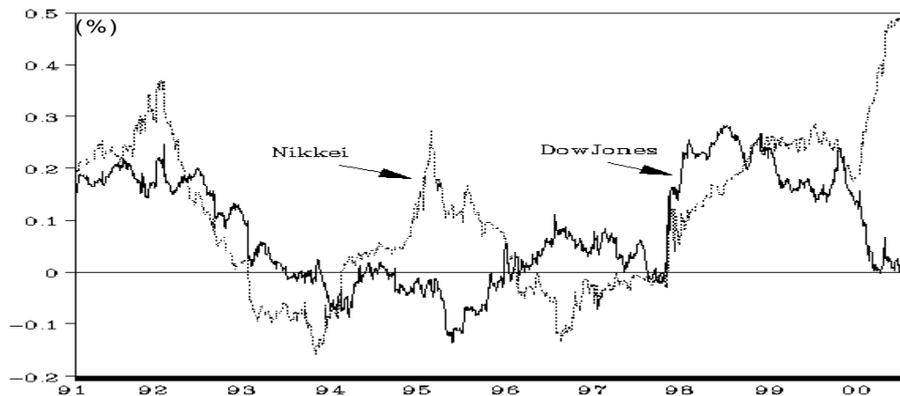
Source: Korea Stock Exchange, *Stock*, various issues, <http://www.kosdaq.or.kr>.

Figure 7 Foreign Influence on KOSPI

Note: The figure shows the effect of foreign influence as measured by the coefficient of the ratio of foreign stock investment/GDP in the stock price equation. Kalman filter was used for coefficient updating in the equation of stock price.

Increased foreign participation in the Korean stock market in the form of portfolio investment has the side-effect of enhancing the linkage with external developments and increasing financial market volatility. For example, whenever there is a massive sell-off by foreign investors, the

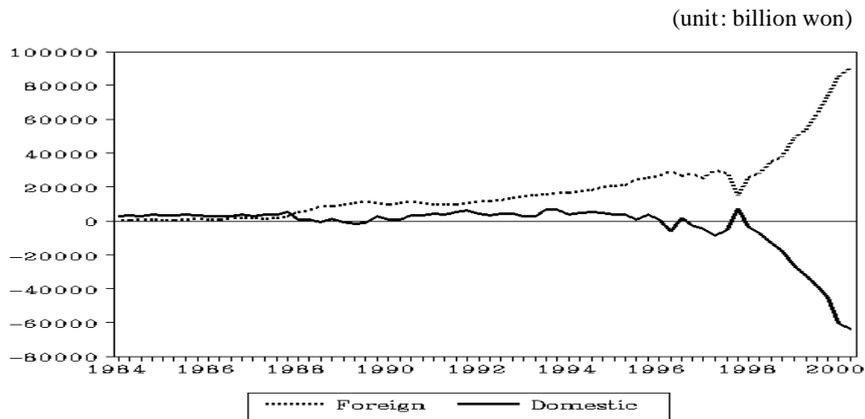
**Figure 8 Correlations of Dow Jones vs. KOSPI
and Nikkei 225 vs. KOSPI**



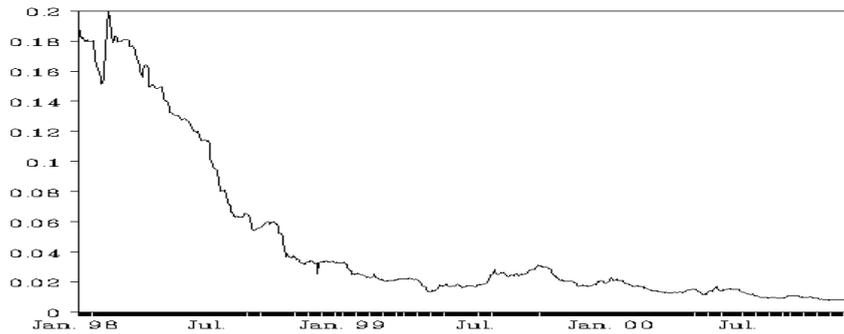
Note: Correlation is based on the window size of 240 days. In estimation, daily data from January 28, 1991 to July 25, 2000 are used with trading day adjustments.

Korean stock market underwent serious troubles from the possible contagion effect. Synchronized stock movements are shown in the correlations among the Dow Jones Industrial Average Index, Nikkei 225, and the KOSPI, which have tended to be more positive since 1998 (Figure 8). The so-called push factors became significant sources of uncertainty in influencing domestic financial development since external sector became increasingly important venue of money supply (Figure 9). Given the increasing size of capital flows, any disturbances in capital account can potentially threaten the economic stability of a small open economy like that in Korea via its direct impact on domestic financial conditions. In fact, increased financial opening as measured by increased volume of foreign portfolio investment, and increasing correlation with overseas market have been the primary causes for eroding the effectiveness of domestic monetary policy.

Also, increased financial opening caused the reduction of risk premiums. A comparison of interest rate spreads between similar instruments of same maturity shows that risk premiums dropped significantly after the crisis

Figure 9 Sectoral Supply of Base Money

Source: The Bank of Korea.

Figure 10 Evolution of Coefficients in the Arbitrage Equation

Note: 1) The sample period uses daily data from January 7, 1997 to December 8, 2000.

2) Trends of \mathbf{q}_t in $\mathbf{q}_t = i_t - \left(i_t^* + \frac{E_t[e_{t+1}] - e_t}{e_t} \right)$.

3) i is 91-days CD rate, i^* is 3-month treasury bill rate – secondary market. e is the last price of won/dollar and $E_t[e_{t+1}] = e_{t+1}$.

(Figure 10). However, if conditions for borrowing change abruptly, the reverse process can seriously destabilize the economy that is increasingly dependent on foreign capital. For example, as increased uncertainty eroded

Table 3 Trends of Ratio of Capital Inflow & Outflow to GDP by Type

	Direct Investment			Portfolio investment			Others			Total
	Foreigner	Individuals	Sub-total	Foreigner	Individuals	Sub-total	Foreigner	Individuals	Sub-total	
90	0.3	0.4	0.7	0.2	0.1	0.3	2.6	2.7	5.3	6.3
91	0.4	0.5	0.9	0.8	0.2	1.1	1.0	2.5	3.5	5.5
92	0.2	0.4	0.6	1.6	0.4	2.0	1.1	1.6	2.6	5.2
93	0.2	0.4	0.6	3.0	0.2	3.2	1.5	1.9	3.4	7.1
94	0.2	0.6	0.8	2.0	0.5	2.5	1.8	3.3	5.1	8.4
95	0.4	0.7	1.1	2.8	0.5	3.3	2.9	4.5	7.4	11.8
96	0.4	0.9	1.3	4.0	1.1	5.2	2.6	4.7	7.3	13.8
97	0.6	0.9	1.5	3.4	0.7	4.1	2.9	2.5	5.5	11.1
98	1.6	1.5	3.0	2.9	1.3	4.2	2.3	2.4	4.7	11.9
99.1/4	1.2	0.8	2.0	0.7	0.1	0.8	2.1	1.3	3.4	6.2
2/4	1.8	0.5	2.3	3.6	0.3	3.9	2.9	3.3	6.2	12.4
3/4	2.7	0.8	3.5	2.6	1.1	3.7	4.0	0.9	4.9	12.2
4/4	2.3	1.2	3.5	3.4	0.6	4.0	3.2	1.1	4.3	11.8
00.1/4	1.6	1.0	2.6	8.4	1.6	10.0	2.5	1.2	3.7	16.3

Source: The Bank of Korea, *Monthly Bulletin*, various issues.

investor sentiment since the Daewoo crisis, interest rate spread began to affect the composition of foreign capital flow unfavorably. A significant benefit of increased financial opening is a sharp reduction in the risk premium on Korean assets, while growing integration appears to be associated with greater stock market volatility. Taken together, given the fragile nature of economic recovery and inherent problems with the financial system, it remains to be seen whether reduced risk premiums properly reflect risk factors in emerging economies. Also, the domestic financial system is not attuned to utilize the expanded financing opportunities as it fails to evaluate risk factors properly, resulting in greater NPLs in the banking sector. Given that neither the banking sector nor the capital market is fully developed, increased market liberalization can become a sheer burden, leaving lingering side-effects that hinder market growth.

3. CAUSES FOR THE EXACERBATING POST-CRISIS FINANCIAL DEVELOPMENTS

So far, we have gathered the evidence to reveal the fragile market conditions in Korea, which constantly required the attention and intervention by the authority. Drastic changes in corporate financing, bullish market

trends with emerging bubbles, and volatile flow of capital have added to the weakness of the Korean financial system. Even with the understanding that the instability largely stemmed from the mal-functioning of the markets, policy efforts were mainly directed at easing and cushioning the shocks, instead of addressing the root cause of the problem. More specifically, post-crisis market trends clearly show that lack of efforts to address the fundamental weakness of financial markets only led to increased market risks. Therefore, causes for the post-crisis financial developments can be summarized as the combination of the following factors: inherent market problems, structural changes and policy constraints, shortsighted policy goals, and lack of restructuring efforts.

3.1. Inherent Market Weakness

There are many ways to examine the market strength of an economy: depth and breadth as measured by the size and coverage, as well as its close link with the industrial structure, etc.

First, the Korean financial market is too small to handle volatile capital flows. The banking sector's dominance largely characterizes the financial industry's support for the monolithic Chaebol system during the pre-crisis period and the stock market is merely regarded as an alternative venue to raise quick money. Similarly, the simplistic maturity structure and the small but volatile volume of transactions with poor risk evaluations³⁾ underscore the weakness of the Korean bond market. Notable example for market fragility in terms of sheer size can also be found in the foreign exchange market, where the smaller size of the FOREX market can hardly cushion any sizable changes in capital flow without precipitating significant exchange rate volatility. The internal risk associated with increased market volatility only enlarges when a thin market has to deal with huge and volatile financial

³⁾ Korea has limited categories for evaluating risks for corporate bonds. Since Daewoo bonds were recognized as investment grade, risk evaluation turned into an extreme polar case in which very few can qualify as investment grade, while huge demand for government bonds crowded out the demand for private bonds.

flows.

Second, the Korean financial market is fundamentally ill equipped to evaluate market and credit risks properly. The overall risks could not be evaluated when the markets were mostly dominated by large chaebols whose in-house financing has not been subject to scrutiny by the shareholders or an independent supervisory body. Biased industrial structure has been hindering proper risk evaluations in the financial market. Bond ratings of most chaebols did not signal any impending dangers, as they were perceived to indirectly consist of an implicit government guarantee. Given the huge dominance of the chaebols in the market, no reliable market information could be utilized to assess risk factors. Since the financial market used to be regarded as merely an alternative route to raise money, the crucial function of credit evaluation and efficient allocation of resources was largely ignored even after the crisis. Simply, the risky behavior among market players was not observed in the post-crisis period since the economy continued to depend on the problem-ridden chaebol system.

Due to such inherent weakness of the Korean financial system, a relatively small shock suffered in one market can be easily transmitted to the entire financial sector, leading to an entire collapse of the market. Certainly, the capital markets in Korea was not developed enough to absorb a major shock like the Daewoo failure, and the deterioration of market confidence deprived the authorities of their use of discretion in pursuing time-consistent optimal macro policy. Just like the chain of events from lax supervision of the banking sector to huge defaults in chaebols before the crisis, weakness in the capital market led to the collapse of the bond market and ITCs wherein macro policies only exercised greater side-effects through the balance sheet channel (e.g., Bernanke and Gertler, 1995). Another subtle, yet important reason for the depressed capital market is the prevailing view that market participants utilized the market mainly for their financing and speculative needs without evaluating the potential risks.

3.2. Policy Constraints under Increased Financial Opening and Restructuring

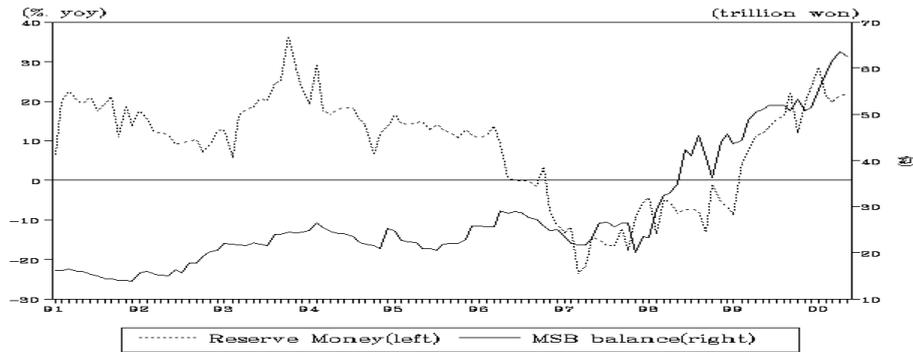
Another aspect of the post-crisis developments can be examined from the perspective of the policy responses taken. As the capital account developments largely dominated conditions in domestic financial markets, it became increasingly burdensome for the monetary authority to sterilize capital flows. In addition to the sterilization burden, the authority had to deal with the increased volatility associated with the increasing volume of portfolio investments. This is mostly due to increased financial opening that allowed foreign access to domestic financial markets since January 1992. But more importantly, this trend has been the result of a premature opening before market infrastructures were adequately developed.

Greater challenges for monetary policy were most visible in the authorities' attempt to sterilize destabilizing capital flows. It also needs to be noted that the lack of proper market mechanism under increased opening of the markets resulted in a heavier reliance on traditional policy measures to bring about stabilization, whose short-term oriented use tended to overlook structural problems.

Continued sterilization with increasing quasi-fiscal costs is no longer expected to grant effective measures to deal with increasing capital flows. Specifically, in addition to the onerous burden of quasi-fiscal costs, continued sterilization efforts resulted in financial disintermediation as banks continued to absorb MSBs at the expense of reduced loans to corporate customers. Simply, capital flows proved to be too much of a burden on the monetary authority that strove to see the financial market development, posing a serious hindrance to it by creating a problem of its own (Figure 11). Also, the so-called quasi-fiscal costs increased significantly, transferring the burden of controlling the level of domestic liquidity on the fiscal side.

First, the monetary authority faced a worsened economic situation from the increased integration with global financial markets. After the financial shock, Korea experienced a quick restoration of capital flows from overseas,

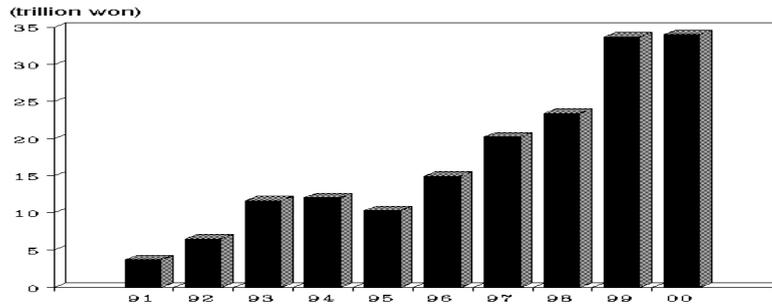
Figure 11 Trends of Reserve Money and Monetary Stabilization Bonds Balance



and most efforts were directed to sterilize the capital flow via massive issuance of the monetary stabilization bond. These efforts were largely regarded as the first line of defense against the surge in capital flows that threatened the Korean economy's competitiveness. However, continued sterilization efforts of the BOK to reduce the supply of money from the overseas sector virtually exhausted their ability to deal with volatile capital movements later. In fact, this initial phase of sustained capital flow contributed to eroding the BOK's stabilization efforts when the flow became extremely volatile after the Daewoo incident. For instance, an analysis of the offset coefficients suggests that changes in domestic credit annihilated the effect of sterilization, which also suggests that controlling money supply by issuing MSB became increasingly ineffective.⁴⁾

Second, even with massive sterilization efforts, the costly measure became increasingly ineffective in stabilizing the capital account. Evidences for visible offsetting effects are clear in capital accounts. In fact, the magnitude of capital flows as a ratio of the nominal GDP rose from a quarterly average of 11.9 percent in 1998 to 16.3 percent in the first quarter of 2000. Increased magnitude and compositional volatility of capital flows act as an

⁴⁾ Similar studies show that sterilization coefficients range from 0.64 to 0.85 based on a sample between 1980 and 1994 (Park, 1996).

Figure 12 Redemption Volume of Corporate Bonds

Note: The value of Dec. 2000 is not included in 2000.

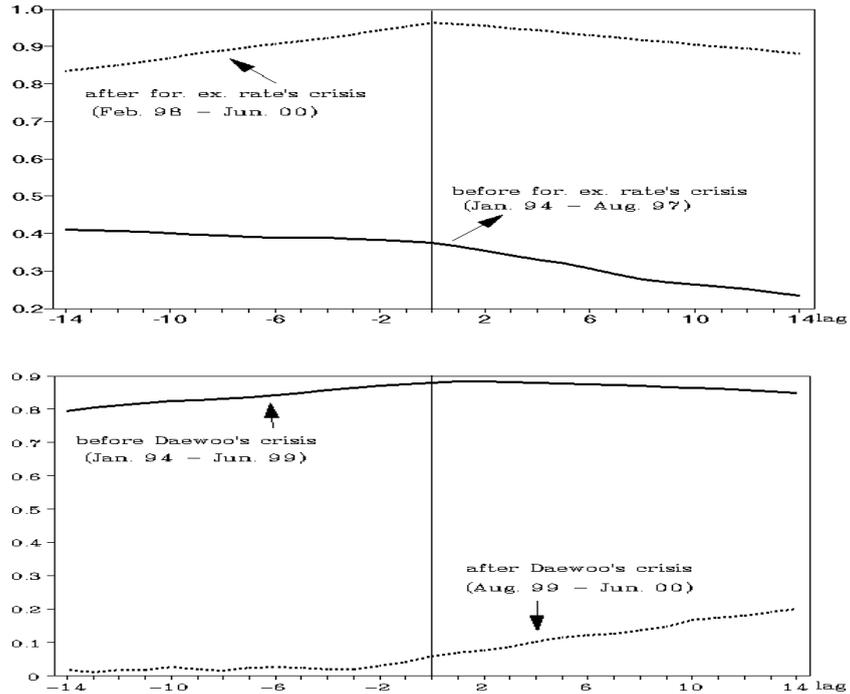
Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*, various issues.

amplifier of economic disturbances, and the negative ramifications can easily erupt with the rising trend of overseas interest rates. Again, in addition to the limited possibility of responding to changes in capital flows in an increasingly open environment, part of the reason for increased stock volatility is due to the limited size of the foreign exchange market, which cannot absorb any significant shock.

Third, even the existing transmission channel is not working due to serious damages sustained during the Daewoo crisis. The bond market has yet to be normalized as it still suffers from huge mismatch in supply and demand conditions that were incurred during the earlier crisis period when firms issued large amount of bonds at higher interest rates. As redemption begins to occur after three years of maturity, supply of bonds suppresses the market, raising the need to absorb bonds through setting up special funds (Figure 12). Without the aid of the special fund to absorb the redemption of these bonds, market failure might be unavoidable.

Another piece of evidence can be found in the lack of term structure relations. The serial correlation between short-term and long-term interest rates shows that there were stronger links between the two immediately after the crisis: the coefficient rose from 0.2-0.4 to 0.8-0.9, implying that a interest rate based monetary policy could have been implemented, and the conditions

Figure 13 Cross-correlation Coefficient of Long and Short-term Interest Rate during the Currency Crisis Period and the Daewoo-ITC Period



Note: Coefficient of cross-correlation between call rate and three-year corporate bond yield.

for market-based implementation of a monetary policy became seemingly mature. Yet, after Daewoo's failure, the link was broken and it is hard to expect that a monetary policy can be effective with the usage of the existing term structure (Figure 13). The transmission mechanism failed as the authority continued to allow the Daewoo shock to be absorbed gradually in the market at the paralyzed bond market's expense, where firms can no longer resort to engage in debt financing.

Fourth, besides the real constraints that dominate the authority, prevailing conditions are hardly encouraging to seek confidence building policy

Table 4 Endogenous Capital Flow and Money Supply

Period	Explanatory Variables(offsetting effect)						R^2	DW
	Cons.	DNDA	CA	$D(\tilde{r}^*+e)$	DY	DW		
1985. 1/4 ~1991. 1/4	198.45 (0.862)	-0.262 (-2.334)	-0.589 (-4.886)	-45.524 (-0.562)	0.139 (1.082)	-0.110 (-1.608)	0.80	1.72
1992. 1/4 ~1997. 3/4	-324.54 (-0.595)	-0.464 (-6.081)	-0.592 (-5.389)	-8.264 (-0.060)	0.808 (3.024)	0.137 (2.320)	0.84	1.55
1992. 1/4 ~2000. 2/4	1577.3 (3.632)	-0.587 (-7.133)	-0.572 (-6.695)	-114.73 (-3.360)	-0.258 (-1.102)	0.026 (0.656)	0.79	2.04

Period	Model	Explanatory Variables(sterilization effect)						R^2	DW
		Cons.	DNFA	DBUDG	$q_{t-1}DREER_{t-1}$	$q_{t-1}DPROR_{t-1}$	DBOKL		
1985.1/4- 1991.4/4	I	430.17 (1.892)	-1.027 (-5.527)	0.096 (1.386)	-3.195 (-0.430)	-0.953 (-0.136)	-	0.61	3.05
	II	85.972 (0.338)	-0.689 (-3.097)	0.010 (0.135)	-0.189 (-0.027)	3.115 (0.470)	0.829 (2.347)	0.69	2.73
	III	78.887 (0.333)	-0.682 (-3.293)	-	-	3.205 (0.548)	0.854 (2.951)	0.69	2.70
1992.1/4 -1997.3/4	I	-675.66 (-0.961)	-1.101 (-3.844)	0.092 (0.459)	-20.615 (-0.737)	50.821 (1.940)	-	0.62	2.30
	II	-535.18 (-0.824)	-1.171 (-4.411)	0.125 (0.678)	-0.327 (-0.012)	62.177 (2.517)	0.728 (2.073)	0.70	2.76
	III	-651.84 (-1.160)	-1.087 (-5.756)	-	-	65.134 (2.791)	0.732 (2.322)	0.69	2.78
1992.1/4 -2000.2/4	I	-45.225 (-0.080)	-0.879 (-10.637)	0.124 (1.327)	-10.782 (-0.540)	14.010 (0.652)	-	0.83	2.66
	II	-90.703 (-0.154)	-0.870 (-9.877)	0.123 (1.294)	-7.908 (-0.358)	16.582 (0.715)	0.081 (0.329)	0.83	2.72
	III	-111.22 (-0.198)	-0.885 (-10.322)	-	-	20.822 (0.924)	0.118 (0.526)	0.82	2.65

Note: $CAP_t = a_0 + a_1\Delta NDA_t + a_2\Delta CA_t + a_3\Delta(i^* + e)_t + a_4\Delta y_t + a_5\Delta W_t + u_t$

Model 1: $\Delta NDA_t = b_0 + b_1\Delta NFA_t + b_2\Delta BUDG_t + b_3q_{t-1}\Delta REER_{t-1} + b_4\Delta PROP_{t-1} + e_t$

Model 2: $\Delta NDA_t = b_0 + b_1\Delta NFA_t + b_2\Delta BUDG_t + b_3q_{t-1}\Delta REER_{t-1} + b_4\Delta PROP_{t-1} + \Delta BOKL_t + e_t$

Model 3: $\Delta NDA_t = b_0 + b_1\Delta NFA_t + b_2q_{t-1}\Delta PROR_{t-1} + b_3\Delta BOKL_t + e_t$

exercises. To make things worse, a firm loss-sharing principle was not applied or could not be tried because of government interventions or implicit guarantees, delaying prompt actions to set up the firewall or to help realize the financial losses for any investment. For example, the problems of ITCs were seen as a second line of defense against possible bank runs. However, shutting down troubled institutions only became increasingly difficult and the

-muted reaction of the authority was easily expected. The hesitation to engage in the outright shutdown of troubled ITCs in the presence of massive flight to quality was also related with the policy constraint that the possible shock might result in massive capital flow reversal, rendering previous normalization efforts useless. Even positive scenarios proved to be burdensome as increased capital inflow could not be matched with equiproportionate development in the financial system, if not effective sterilization effort by the authority. The most direct response to normalize the situation took the form of setting up a special purpose fund (20 trillion won) to buy up bonds from ITCs using the money from banks. Preserving financial stability proved to be surely challenging for the monetary authority in one way or another. While sources for uncertainty gradually increases, the response are quite limited in the sense of an increase in fiscal costs and the lack of proper channels to deliver the policy impact on a consistent basis.

Domestic supply of base money was calculated by subtracting the difference between foreign asset and foreign liabilities from the base money in the monetary survey. Net foreign asset is the difference between foreign asset and foreign liabilities in the BOK account. Fiscal deficit is calculated from $(\text{revenue} - (\text{expenditure} + \text{total of net loans})) \times (-1)$ in the central government fiscal balance that appears in the monthly bulletin. Changes in real effective exchange rate is based on JP-MORGAN data. Growth of the real sector reflects growth rate of the manufacturing sector. Loans from the central bank is a quarterly series in the BOK account that appear on the asset side. All units in billion won. The estimation result is derived from two stage least squares based on simultaneous equation system.

Financial opening provided a great opportunity for Korea to obtain access to cheaper capital. Yet due to poor financial system infrastructures and shallow and narrow capital markets, stabilization efforts became increasingly ineffective, making the economy more susceptible to external shocks. In fact, heightened volatility associated with increased financial opening in fundamentally weak financial markets tend to add pressure for seeking short-term financial stability to preserve economic stability. Further, increased

volatility and sensitivity from a lack of a proper market functioning could, combined with volatile capital flows, propagate and reinforce instability. Also, it should be noted that this quick response by market participants is partly due to the lack of hedging instruments offered by reliable institutions. When one cannot find safe haven, investors' behavior tend to be very myopic and speculative. From the above observations, we can easily draw the conclusion that the immature financial market became excessively sensitive to various shocks. Due to such, markets seemed to be less likely to achieve the depth and breadth required to accommodate a more open environment, even with strenuous policy efforts to stabilize.

4. POLICY IMPLICATIONS

The changed economic conditions in the aftermath of the crisis and the subsequent policy responses underscore the importance of securing a robust financial sector. Also, the above analysis affirms the causal role of the imperfect financial market in magnifying the economic shocks and eroding policy effectiveness in the presence of capital flows. Monetary policies could not perform any convincing role in securing a stable, well-functioning market since primary concern for short-run stability began to dominate the policy implementation. Low interest rate policy primarily served this purpose, yet the need for macro adjustment to preserve economic stability was largely ignored until the depreciation pressure could not be tolerated. Exchange rate adjustment was less than optimal to trigger even bigger adjustment of exchange rate later. Simply, stronger financial sector is a must to cope with various risk factors in an open environment. Without a strong financial sector, seeking stability in this open environment will only prove to be futile since sources of instability mostly go unchecked beforehand.

Given the importance of having deeper, well functioning markets to preserve stability in an open environment, the choice of the exchange rate

regime is particularly important. The fact that these financial developments took place after a sizable adjustment in exchange rate was made during the crisis underscores the importance of exchange rate dynamics. In fact, wide swings in exchange rate are closely related with boom and bust cycle that we observed during the crisis. For stable economic environment, exchange rate stability is necessary and policy efforts need to take this into account. However, it needs to be emphasized that exchange rate stability cannot be maintained as an outcome of policy efforts, either. As explained in Williamson (2000) and Eichengreen and Hausman (1999), it may be presumptuous to recommend choosing a polar form of the exchange rate regime for emerging economies, whether it be the currency board or the flexible exchange rate system. Even though Chang and Velasco (1998) concludes that the flexible exchange rate system is good for small open economies, implementation can often result in the increasing pressure to depreciate its own currency against the dollar. The real choice is not so much about the form of exchange rate system as how we go about implementing it. Likewise, Williamson (2000) argues that these polar forms of the exchange rate regime are more prone than intermediate regimes to generate prolonged deviations of exchange rates from levels justified by economic fundamentals. In practice, we have difficulty reconciling the fact that the flexible exchange rate system often prompts excessive adjustment by the authority to preserve competitive rates, while fixed system often leads to a fragile financial sector and a huge misallocation of resources.

As always, the amount of policy efforts to sustain fixed rate should be compared with the costs that include quasi-fiscal costs (Kletzer and Spiegel 1998). Fear of floating is real since large capital inflow together with appreciation of local currency imposes substantial adjustment costs on the economy where a variety of rigidities still exist. Emerging market countries will have to live with more flexible exchange rate regimes than in the past, but as we have seen, the degree of admissible volatility hinges on the strength of its financial sector. After all, the presence of optimal floating that promotes financial sector development may be an empirical question.

Whether each country can utilize this change as a catalyst to improve its financial sector would determine the admissible band of the exchange rate movement in the sense of achieving internal as well as external equilibrium. All in all, the choice of the exchange rate regime should emphasize avoiding prolonged and substantial misalignments in terms of the medium-term economic fundamentals.

In a related context, developing economies can shed the fear of floating by building deep and liquid domestic markets in long-term, domestic currency-denominated securities. One-way pressure to depreciate can possibly be countervailed by developing a domestic long-term bond market, e.g. new pension fund and real estate financing. Under the Korean setting, the original sin hypothesis (Eichengreen and Hausmann, 1999) became increasingly credible: exchanging hands between the private and public do not imply increasing acceptance by overseas investors to hold won-denominated assets. This of course involves building market infrastructures, including prudential supervision and regulations. Also, it is worth emphasizing that the choice of the exchange regime is a vital part of reviewing the enhanced policy framework to deal with both cyclical and structural problems of an emerging open economy.

While exchange rate regime is of vital importance in preserving economic stability in Korea, it needs to be pursued within a consistent framework of price stability to be useful in satisfying a set of conditions for long-term market development. That is, while well-developed markets are helpful in preserving economic stability, the choice of exchange rate regime itself cannot force markets to perform this function. In an open economy, especially an economy with restructuring burden, achieving economic stability through monetary policy alone can be costly. The possibility of pursuing an independent monetary policy is becoming sharply limited in terms of securing policy instruments and transmission channels. Especially, sterilizing burden of the monetary policy cannot be sustained due to the huge burden of managing MSBs, a breakdown in the term structure relationship in the bond market, and the endogeneity of capital flows. We cannot expect to

achieve stability without restoring the market mechanism in the financial sector. And it needs to be combined with the exchange rate policy.

Also, the exchange rate regime is of vital importance both as a stabilization scheme and as a catalyst for developing a long-term bond market. Since the short-term stability and the long-term prospects for the bond market are conflicting policy objectives, devising a proper exchange rate regime is a challenging task. However, to break the vicious link from weak a financial market to a moderated exchange rate movement and a subsequent drastic adjustment would call for serious efforts to strengthen the financial market and reduce moral hazard simultaneously. In this sense, a form of flexible inflation targeting is called for. A superstructure in policy framework that subsumes both exchange rate and monetary policy is required to address these fundamental problems.

Increased integration with the world financial market calls for the enhanced functioning of the domestic financial market. In terms of the size and depth, domestic financial markets need to function to evaluate various risks appropriately. Both the maturity structure and the composition should be advanced to deal with various risk profiles of financial needs. Certainly, the increased endogeneity of the money supply is very sensitive to risk factors and the reduced risk premium can sharply reverse itself when substantial shocks are believed to be outweighing a limited neutralizing power of the domestic markets. However, faced with the impossible trinity, the authority can hardly choose the optimal responses and is prone to swing from one corner solution to another, amplifying economic fluctuations. And efforts to stabilize the financial market often result in a sharp adjustment of the exchange rate, if not an outright currency crisis situation.

We have seen that market weakness with increased risk factors forces myopic policy responses and play out destabilizing effect in a crisis economy. We also found out that even successful macro policies cannot replace what financial markets do under normal circumstances. Thus, as pointed out, strengthening market infrastructure needs to be emphasized in designing future policy efforts. From policy-making perspectives, this requires setting

up some form of policy framework within which all the elements pointed out before can be coordinated in a consistent manner. One of the suggestions for future policy framework is a form of flexible inflation targeting. Inflation targeting is desirable for following concerns: First, it can contribute to improve public credibility on policy-making. In view of the fact that most policy adjustment is taking place when the objective of price stability is negatively affected, a form of inflation targeting is desirable in terms of coordinating policies in a consistent manner. Second, it can promote the formation of long-term capital markets since longer horizon for investment can be assessed in the market. For developing the long-term capital market, price stability is necessary and for this purpose a form of flexible inflation targeting is highly desirable. It is important that the choice of the exchange rate regime that promotes the risk conscious behavior of corporate and financial sector can be made within the framework of a flexible inflation targeting. In addition, market friendly obstacles to capital flows as a safety device need to be installed to guard against unexpected, and disruptive surge. Third, it can help achieve balanced growth in developing economies. It is important to provide remedies to the root cause of exchange rate instability in developing economies. By accelerating the growth of nontradable sectors, increased pressure to depreciate can be moderated and price stability can be better attained. Fourth, inflation targeting is a practical choice for monetary policy when transmission channels are significantly altered and no reliable market indicators exist. Especially, when nominal anchor vanished after the crisis, inflation targeting is the only feasible framework for monetary policy, which can promote exchange rate stability as well as economic stability by promoting conditions for market development. As shown, Korea experienced significant changes in the transmission channel of monetary policy. Given different bank dependence among corporate sectors, changes in the transmission channel amid abnormal market functioning precipitates changes in the real economic activity. Also, increased volatility due to financial opening weakened the authorities controllability of policy instruments, implying a volatile economy with no effective means of

achieving stability. Overall, a form of flexible inflation targeting would allow us to address the underlying cause for market instability that we experienced after the crisis by fostering an environment suitable to develop needed financial market infrastructures. Also, a prudent exchange rate policy can be better coordinated within a consistent framework that ensures the more efficient allocation of resources.

5. SUMMARY AND CONCLUSION

A series of events that characterize the post-crisis financial market clearly points out the fundamental weakness of the Korean financial system, particularly that of the capital and FOREX market. The evidence offered in this paper show how the fragile financial sector, when faced with various shocks and policy responses, result in propagating the instabilities in a vicious cycle. That is, even restructuring efforts with macro support can be destabilizing in an increasingly open, yet financially fragile environment. Therefore, as new transmission channels pose serious challenges for monetary policy, markets with a solid foundation need to be developed to sustain increased exposure to various shocks.

Drastic changes in corporate financing methods and speculative herd behavior confirm the inherent shallowness of the Korean financial market. Market anomalies could not be alleviated by the increasing presence of foreign investors. A more active portfolio investment by foreign investors did not promote the formation of deeper financial markets. Also, the government's outright efforts to stabilize the financial market failed to initiate necessary developments in the financial sector. In contrast, previous findings emphasize the importance of securing robust financial sector in an open economy. Without financial robustness in the open environment, policy effects can be further destabilizing, prolonging the necessary development in the core part of the economy. Since exchange rate volatility and other signs of financial instability are clearly predictable outcomes of

exposing the fragile economy to increasingly open environment, more attention needs to be devoted to installing the necessary components of a market economy, i.e., well-functioning markets. It is proposed that the choice of the exchange rate regime within a coherent policy framework can help promote the formation and improve the functioning of financial markets.

Post-crisis financial developments also point to the limitations of policy oriented resuscitation efforts in the presence of a weak market support system. One of the most important implications of the financial developments is that policy response can interfere with the efforts to secure a sound market system. As a result, policy responses should be formulated with a clear, long-term objective of strengthening the market and with a limited concern for achieving short-run stability. The exchange rate regime should be chosen with a clear objective to promote the growth of the financial industry, especially the long-term capital market, and should be compatible with sustaining low inflation. Regional cooperation should also be related to the policy framework to implement successful stabilization and long-term market development. Policy measures need to be coordinated in order to prevent the formation of serious side effects that immobilize the other measures. For example, a low interest rate policy can boost the stock market, which renders restructuring difficult to pursue, yet a serious mismatch in the bond market makes it difficult to reverse the interest rate policy for fears of successive corporate failures in the presence of a fragile financial sector. Various safety devices also need to be developed to protect the economy from the sudden reversal of capital flows. The Chilean type of safety nets could be used for unusual capital account movements that threaten economic stability. Volatile capital flow can help stimulate the growth of markets, but it can also hinder growth if the existing financial system simply cannot handle the increased risks associated with it. To overcome the original sin hypothesis, Korea needs to develop a long-term bond market by tapping into pension funds, real estate financing, and other public savings schemes. Unless policy commitments are shown in a consistent manner to formulate a long-term bond market, Korea cannot

escape the impossible trinity that arises from prevailing conditions of weak financial markets.

Recent data shows that we see increasing evidence of reverting to the old mode of financing via the banking sector after a brief span of capital market boom during period when both the corporate and banking sector engaged in fixing the balance sheet. With another round of boom and bust during 2000-2001, the banking sector is heavily engaged in household lending. Loan concentration and lack of adequate risk assessment practices raises overall systemic risk and the strengthened regulatory efforts might unduly put stress on the fragile banking system with non-diversified portfolios. Post-crisis challenges require us a more prudent risk attitude and a market based financial system with less of the influence from the authority.

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