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How to Sequence Capital Market Liberalization: Lessons from the Korean Experience

Inseok Shin · Yunjong Wang

KOREA INSTITUTE FOR
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Kyung Tae Lee, *President*

KOREA INSTITUTE FOR
INTERNATIONAL ECONOMIC POLICY
300-4 Yomgok-Dong, Seocho-Gu, Seoul 137-747, Korea
Tel: 02)3460-1045 / FAX: 02)3460-1144,1199
URL: http//www.kiep.go.kr

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KIEP KOREA INSTITUTE FOR INTERNATIONAL ECONOMIC POLICY

KOREA INSTITUTE FOR
INTERNATIONAL ECONOMIC POLICY (KIEP)
300-4 Yomgok-Dong, Seocho-Gu, Seoul 137-747, Korea
Tel: (822) 3460-1178 Fax: (822) 3460-1144
URL: http://www.kiep.go.kr

Kyung Tae Lee, *President*

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Executive Summary

Since a global financial market and its potential volatility pose such a grave potential danger for most emerging economies, individual countries and the international community should find ways and build mechanisms, by which the systemic risk of global financial instability could be minimized. Most of all, at the national level, the old question on how market opening should be sequenced may need re-examination in a new perspective. The old wisdom holds that properly and orderly sequenced external liberalization should be from the current account to the capital account and capital account liberalization should be in the order of long-term to short-term. However, after the recent crisis, heated debates are not on how to get the sequencing right, but on how to deal with the volatility of short-term capital flows.

In fact, there are often-heard voices advocating temporary controls over capital inflows *a la* Chilean scheme, which should be introduced before a crisis occurs, or controls over capital outflows, *a la* Malaysian way, which should be applied after crisis arises especially if a country is in the transition period of strengthening the institutional and regulatory domestic financial institutions. At the same time, the argument for an enhanced disclosure requirement and changes in current bank lending procedures to hedge funds is also gaining force. Maybe, we had better get ready to see more emerging markets trying various mechanisms for controlling short-term capital inflows, including hedge funds, on the other hand and fostering long-term capital inflows, such as foreign direct investment, on the other hand.

This development of policy interests suggests that the question on sequencing should be dealt with in a rather broadened scope. Indeed, the main purpose of this paper is to argue that the scope should go beyond mere contemplation on carriers of capital flows and comprise considerations on incentives of domestic and international agents who make use of those carriers.

The most serious sequencing problem in Korea was to liberalize short–term financing through banks rather than long–term financing, and to underestimate the potential devastating impact on the economy when massive capital inflows have come to reverse. Although long–term capital inflows were rather repressed during the pre–crisis period, it would be an exaggeration to say that short–term capital movements were liberalized greatly. Neither firms nor banks could sell their short–term debt instruments in domestic currency to foreigners. Only liberalized were trade–related financing of firms and short–term foreign currency borrowings of banks.

The intention was clear: liberalize first capital flows that are only trade related. Then, a subsequent question arises on what should be done with short–term foreign currency borrowings of banks? Should the Korea government have restricted short–term borrowings of banks? Probably the answer is No. It is extremely costly to control short–term transactions of banks. What was lacking was financial supervision and appropriate risk management. Without strengthening banking supervision and enhancing corporate governance, corporate debt crisis will be an inevitable outcome. In this regard, the main lesson of the Korean crisis is not the sequencing problem in the capital market liberalization, but the structural deficiencies as prerequisites of capital market liberalization.

Dr. Inseok Shin, Research Fellow, Finance Division, Korea Development Institute, earned his Ph.D. in Economics from Stanford University. His field of concentration covers financial crisis, financial sector regulation and supervision, and monetary policy. Corresponding address: P. O. Box 113, Cheongnyang, Seoul 130-012, Korea. Ph. (822)958-4048; Fax. (822)958-4088; E-mail: ishin@kdiux.kdi.re.kr.

Dr. Yunjong Wang, Director of Department of International Macroeconomics and Finance, earned his Ph.D. in Economics from Yale University. His field of concentration mainly covers liberalization of trade, foreign direct investment, and capital markets in Korea. Corresponding address: 300-4 Yomgok-Dong, Seocho-Ku, Seoul 137-747, Korea. Ph. (822)3460-1124; Fax. (822)3460-1212; E-mail: yjwang@kiep.go.kr.

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Ⅰ. Introduction

It is no wonder that the Asian crisis is considered to be "the worst international economic crisis in fifty years," affecting two thirds of the world population and putting nearly half of the global economy into recession. Besides, as a senior IMF official publicly acknowledged, the Asian crisis has been a painful learning process for everyone concerned. In coping with the Asian crisis, the IMF started to apply its orthodox prescription of high interest rate policies and fiscal austerity measures along with rather drastic structural reform programs. Unfortunately, however, as the financially stricken Asian economies did not improve as quickly as was originally anticipated, and instead the crisis spread throughout the world, the IMF did take a more flexible approach to the problem.

Disputes on how to resolve the crisis seem to be originated from divided views on what caused the crisis in the first place. For the sake of simplicity, the academic circles may be split into two camps. One camp, which focuses on the liquidity shortage of the Asian

* The paper is prepared for the conference on "*How Open Should Capital Markets be? Fine Tuning Regulation and Deregulation,*" organized by the Friedrich Ebert Stiftung in Frankfurt, Germany, on December 7–8, 1999.

countries, emphasizes the instability of the international financial market and the skittish behavior of international investors and creditors as a major triggering factor in the outbreak of the crisis.[1] In this light, expanded financial support facilities through the international financial institutions (IFIs), established orderly international work–out procedures, and safeguards in the case of an emergency could be relevant policy proposals for building the new international financial architecture. In addition, this view holds that the high interest rate policy and/or other austerity programs should be reconsidered as those policy measures may aggravate the situation rather than improve credibility in the eyes of international investors.

As opposed to this financial panic view, the other camp, including the IMF, focused on structural weakness of the country in question, and, in particular, the moral hazard problem in both the corporate and financial sector. This view stressed the necessity of restructuring and growth sustainability based upon a sound economic system.[2]

In retrospect, we believe that both internal structural weakness and the instability of international financial markets led to the Asian crisis. Also while identification of whether either of the two was the leading cause of the recent crisis might help in some regards, an approach that treats each cause with equal weight will likely prove beneficial in drawing policy lessons. Furthermore, two seemingly independent causes may be intertwined, because structurally unsound economies are likely to be more vulnerable to the instability of financial markets.

1) Radelet and Sachs (1998), and Chang and Velasco (1998) assert that the Asian crisis was primarily caused by illiquidity brought to a head by a panicked, herd behavior of international investors and creditors.

2) See e.g., Corsetti et al. (1998a, 1998b), Fishcer (1998), and Krugman (1998a, 1998b).

In particular, after the crisis, volatility or instability of international financial flows appears begging more serious attention, if any. Today, we live in the age of rapid globalization. Thanks to the digital revolution and the internet, the global financial markets have become even more deeply integrated. According to the Bank for International Settlement (BIS), the daily foreign exchange trading volume in the world amounts to USD 1.5 trillion. Less than 10 percent of the total is directly related to *bona fide* real economic transactions.

One can easily imagine how volatile the global financial capital flows, short-term flows in particular, could be if one believes in the existence of "herd instinct". And obviously, relatively weak and shallow emerging markets would be the most vulnerable. As one observer puts it, "capital flows around the world are like the oceanic tides: in deep bays, tidal movements are little noticed, but in shallow bays, the ebb and flow of the global ocean create huge effects." Paul Volcker (1999) puts it in a different way, "small and open economies are inherently vulnerable to the volatility of global capital markets. The visual image of a vast sea of liquid capital strikes me as apt - the big and inevitable storms through which a great liner like the U.S.A. can safely sail will surely capsize even the sturdiest South Pacific canoes."

Since a global financial market and its potential volatility pose such a grave potential danger for most participating economies, individual countries and the international community should find ways and build mechanisms, by which the systemic risk of global financial instability could be minimized. Most of all, at the national level, the old question on how market opening should be sequenced may need re-examination in a new perspective. The old wisdom holds that properly and orderly sequenced external liberalization should be from the current account to the capital account and capital account liberalization should be in the order of long-term to short-term.[3] However, after the recent crisis, heated debates are not on how to get the sequencing right, but on how to deal with the volatility of short-term capital flows.

In fact, there are often-heard voices advocating temporary controls over capital inflows *a la* Chilean scheme, which should be introduced before a crisis occurs, or controls over capital outflows, *a la* Malaysian way, which should be applied after crisis arises especially if a country is in the transition period of strengthening the institutional and regulatory domestic financial institutions. At the same time, the argument for an enhanced disclosure requirement and changes in current bank lending procedures to hedge funds is also gaining force. Maybe, we had better get ready to see more emerging markets trying various mechanisms for controlling short-term capital inflows, including hedge funds, on the other hand and fostering long-term capital inflows, such as foreign direct investment, on the other hand.

This development of policy interests suggests that the question on sequencing should be dealt with in a rather broadened scope. Indeed, the main purpose of this paper is to argue that the scope should go beyond mere contemplation on carriers of capital flows and comprise considerations on incentives of domestic and international agents who

3) The recent IMF study concludes that there was no unique path because economies start in different positions. Speed of liberalization did not seem to be a determining factor in the success of capital account liberalization. There were, however, some common elements of a comprehensive program of financial sector reform that would contribute to orderly capital market liberalization. See *Countries' Experiences With the Use of Controls on Capital Movements and Issues in Their Orderly Liberalization* SM/99/60.

make use of those carriers. In Korea, before the crisis, apparently short-term borrowings had grown faster than foreign direct investment and other long-term borrowings. Hence one may argue that Korea's liberalization policy bore the traditional sequencing problem. However, we will dispute this on the grounds that the view is only touching the surface and discuss implications of the Korean experience on liberalization policy.

Ⅱ. Capital Account Liberalization in Korea

A. Liberalization in 1980s

Throughout 1980s, the policy of the Korean government on capital flows has been residual. Under the managed exchange rate system, level of the exchange rate and the corresponding current account balances were determined autonomously. Then, policies on capital flows were used to accommodate current account balances.

In the first half of the 1980s, various liberalization measures were undertaken to induce capital inflows for the purpose of financing current account deficits. In particular, the Korean government encouraged domestic banks to borrow from abroad. As a result, Korea saw significant net capital inflows, most of which consisted of bank borrowings. However, in the latter half of the 1980s, the policy stance toward capital flows dramatically changed as the current account balance began to record a large surplus.[4] In order to maintain export competitiveness by mitigating the appreciation pressure of the Korean won-dollar exchange rate, the government resorted to direct capital control. Commercial loans by domestic firms, with the exception of public enterprises, were prohibited. The overseas issuance of bonds and depository receipts by residents was also strictly regulated. In addition, banks were encouraged to reduce their exposure to external debt.

4) During the second half of the 1980s, Korea's trade surplus with the US exploded. It rose to USD 8.6 billion by 1988 compared to only USD 763 million in 1982.

However, gradual movement toward capital account liberalization was not absent. After three consecutive years of current account surplus, Korea formally accepted the obligations of Article VIII, Sections 2–4 of the IMF's Articles of agreement. This move required Korea to eliminate its remaining restriction on payments and transfers for current account transactions. With limited but gradual capital account liberalization, the Korean government also found it increasingly more difficult to manage the multiple currency basket peg (MCBP) exchange rate system, which had been introduced in March 1980.[5] In the context of the standard Mundell–Fleming model, as financial capital mobility increases, managing a pegged or targeted exchange rate becomes increasingly inconsistent with an independent monetary policy, since sterilization of capital inflows through sales of securities becomes more costly.[6] Thus, in March 1990, the Korean government

5) The MCBP system is based upon the formula, which reflects changes in the special drawing rights (SDR) basket and the independent basket as well as the "policy factor." The composition of the SDR basket, which was composed of a number of foreign currencies (originally 16 but eventually watered down to the US dollar, Deutsche mark, Japanese yen, British pound and the French franc), was determined by the IMF every 5 years. However, the composition of the independent basket was never disclosed. It is generally believed that it consisted of the currencies of Korea's major trading partners, namely the US, Japan, Germany and Canada. Even less is known about the last variable, the "policy factor." This factor ambitiously attempted to fill in the blanks and provide the inputs necessary to have exchange rate reflect reality. Analysis of the exchange rate over the MCBP period (March 1980 – February 1990) suggests that the "policy factor" was the most influential part of the formula. See Kwack and Kim (1990) and Kwack (1989).

6) See Chinn and Faloney (1998), pp. 71–72.

adopted a variant of the managed floating rate system, which allowed for a more market based determination of the exchange rate.

B. Liberalization in 1990s

As pressures for liberalization were growing internally as well as externally, the Korean government began taking a more active stance than ever in 1980s. A significant step toward capital market opening was taken in January 1992, when foreigners were allowed to purchase Korean stocks up to 3 percent of the outstanding shares of each company per individual, but no more than 10 percent of a company in total. Furthermore, the Korean government, in June 1993, announced a blueprint for the liberalization and opening of the financial sector which aimed at substantial progress in the deregulation of the financial markets. The plan envisaged further easing requirements for foreign exchange transactions, widening the daily won–dollar trading margins, expanding limits on foreign investment in the stock market, and permitting long–term commercial loans.

Despite a series of deregulatory measures, however, the Korean government still maintained a gradual approach and a considerable amount of capital control remained. For example, the opening of the bond markets was given special attention, because there were large interest rate differentials. And in general, while most capital outflows were liberalized, capital inflows, in the form of foreign portfolio investment in domestic securities and credits from abroad to non–banks, remained subject to various ceilings and certain other restrictions. This asymmetric position was justified by the concern that the potential problem for the Korean economy was surge of capital inflows. Table 1 shows current account balances and capital account

〈Table 1〉 Major International Transaction Indicators

(in USD billion)

	1992	1993	1994	1995	1996
Current Account Balance	-4.2	0.4	-4.5	-8.9	-23.7
Long-term Capital	7.2	8.9	5.9	7.8	11.9
Short-term Capital	1.1	2.0	3.2	5.6	5.4
Overall Balance	4.9	6.5	2.8	3.0	-5.7

Source: The Bank of Korea

indicators since 1992.

The cautious approach toward capital market opening continued when Korea joined the OECD in 1996. The Korean government maintained many reservations to the code of liberalization of capital movements and current invisible operations. According to the membership negotiations, the government was reluctant to liberalize the capital account because of its concern about a dramatic increase in foreign capital inflows due to the interest rate differentials. The government had thus planned to delay liberalizing the capital account until the interest rates would significantly converge.

In sum, most of capital flows were subject to various restrictions. However, it is notable that there were a few exceptions where liberalization went on more rapidly. The first was trade related short-term financing for domestic firms. Restrictions on deferred import payments and the receipts of advance payments for exports were lifted step by step without additional quantity control. The second was short-term foreign currency borrowings of domestic banks, and the third was the issuance of Korean firm's securities in the foreign capital market and offshore borrowings. Finally, control over overseas direct investment by domestic firms was also relaxed.

C. Capital Inflows in 1990s

Despite continued extensive capital controls, a large interest rate differential between home and abroad, coupled with the bright prospects of the economy, have made Korea one of the most attractive markets among the emerging economies to foreign investors. Furthermore, even the partial nature of capital account liberalization undertaken during the pre-crisis period (mid-1990s) triggered massive capital inflows.

For the stock market, the cumulative net inflow of portfolio investment during 1992-1996 was USD 16.3 billion. As of the end of 1996, the share of foreign ownership in the Korean stock market has risen to 10.5 percent in the market value.

〈Table 2〉 Trend of Foreign Portfolio Investments (Net Inflows)

(In USD million)

	1992	1993	1994	1995	1996	1997	1998
Stocks	2034.5	5696.5	1960.3	2203.8	4373	777.4	3988.1
Bonds	0	0	30.3	17.2	15.9	197.5	227.6

Note: Only domestic stocks and bonds purchased by non-residents are reported
Source: The Bank of Korea

However, stock investment by foreigners explains only the limited portion of capital inflows. As seen Table 3, debt instruments accounted for the bulk of total foreign portfolio investment, particularly since 1995. Since the domestic bond market was opened to foreign investors after the 1997 crisis, foreign investors purchased foreign currency denominated debt securities issued abroad by residents in Korea. In this regard, capital outflows in the type of foreign portfolio were not a major triggering factor in the case of Korean crisis.[7] Thus, hot money was not blamed in Korea as much as in other Asian countries such as Malaysia, Hong Kong, and Taiwan.[8] Furthermore, the foreign exchange controls were reasonably stringent, so that foreign speculators found it difficult to attack the Korean currency. Instead, the Korean government substantially accelerated its ongoing capital account liberalization plan to attract more foreign capital inflows after the crisis broke out.

As also found in Table 3, the major portion of the increase in foreign capital inflows was the short-term external borrowing by the banking sector. Consequently, the short-term external debt grew much

〈Table 3〉 Size and Structure of Capital Inflows

(In USD million)

	1993	1994	1995	1996	1997
Equities	6,615	3,614	4,219	5,594	3,102
Debt Securities	3,938	4,534	9,656	15,229	9,444
Foreign Credits to Corp.	1,969 (1,141)	3,058 (-108)	4,438 (-13)	6,242 (13)	1,165 (148)
Foreign Credits to Bank[1]	891 (825)	9,670 (1,633)	15,352 (5,088)	17,386 (8,080)	-6,205 (6,220)
Fund raised in International Market[2]	3,011	1,671	2,260	2,632	5,008

Note: ( ) means long-term
1. Net increase based on the standard of the World Bank
2. Issuance of securities by private corporations

Source: The Bank of Korea

7) In case of Mexican crisis in December 1994, short-term securities investment, especially Tesobonos, by mutual funds and institutional investors withdrew their investment quickly.

8) When Thailand crisis broke out in July 1997, Prime Minister Mahathir Mohamad launched a bitter attack on "rogue speculators."

〈Table 4〉 External Debt by Sector (Stock)

(In USD billion)

	1992	1993	1994	1995	1996	1997
Public Sector	5.6	3.8	3.6	3.0	2.4	22.3
Long-term	5.6	3.8	3.6	3.0	2.4	22.3
Short-term	0	0	0	0	0	0
Corporate Sector	13.7	15.6	20.0	26.1	35.6	46.2
Long-term	6.5	7.8	9.0	10.5	13.6	25.3
Short-term	7.2	7.8	11.0	15.6	22.0	20.9
Financial Sector	23.5	24.4	33.3	49.3	66.7	58.4
Long-term	12.2	13.0	13.9	19.6	27.7	31.0
Short-term	11.3	11.4	19.4	29.7	39.0	27.4
Total (A)	42.8	43.9	56.8	78.4	104.7	126.8
Long-term	24.3	24.7	26.5	33.1	43.7	78.6
Short-term	18.5	19.2	30.4	45.3	61.0	48.2
A/GNP (%)	14	13.3	15.1	17.3	21.8	28.6

Source: Ministry of Finance and Economy

faster than long-term debt throughout the years, and the financial sector became the major holder of external debts. Out of the total increase in external debt during the three years (1994-96), the banking sector explains about 70 percent. The remaining 30 percent reflect growth of the corporate sector's external debt, mainly related with trade credits.

In fact, short-term foreign currency liabilities of the Korean banks were much larger than reflected in capital inflows. As part of the liberalization measures, banks were allowed to open and expand operations of overseas branches. By exploiting the foreign capital channeled through overseas branches, banks actively operated foreign currency denominated business through domestic branches. This resulted in large foreign currency liabilities of overseas branches comparable to those of domestic branches as vividly shown in Table 5.

⟨Table 5⟩ Foreign Currency Liabilities of Korean Banks

(In USD billion)

	1992	1993	1994	1995	1996	1997
Domestic Branches	15.7	16.3	22.6	36.3	50.7	387.9
Foreign Branches	20.1	23.1	31.7	41.3	52.9	312.5
Total	35.8	39.4	54.3	77.6	103.6	700.4

Source: Ministry of Finance and Economy

Finally, another important feature of capital inflows in Korea is that Korea does not attract a large amount of foreign direct investment (FDI) relative to the size of its economy. Table 6 shows that Korea's low FDI stock to GDP ratio stands out among the other Asian countries which tend to exhibit a higher ratio as well. Capital inflows in the form of FDI typically represented only a limited share of total capital inflow into Korea compared with portfolio investment and other flows. The comparison with other Asian countries vividly highlights this fact.

⟨Table 6⟩ FDI Stock as a Percentage of GDP

	1980	1985	1990	1995	1997
China	–	1.5	5.2	18.8	23.5
Hong Kong, China	158.6	138.4	75.0	50.6	54.6
Indonesia	14.2	28.6	36.6	25.6	28.6
Korea	1.8	2.3	2.3	2.3	2.5
Malaysia	21.1	23.7	24.1	31.8	38.1
Philippines	3.8	8.5	7.4	8.2	10.2
Singapore	52.9	73.6	78.2	71.2	81.6
Taiwan	5.8	4.7	6.1	6.0	7.0
Thailand	3.0	5.1	9.6	10.5	8.5

Source: World Investment Report 1999

D. What went wrong?

Large capital inflows mostly through debt instruments with high domestic savings helped fuel strong investment and growth. These capital flows also reflected favorable conditions in the global financial market, including low interest rates and weaknesses in risk management in industrial countries. Financial institutions played an important role in intermediating these inflows or by providing guarantees on direct foreign borrowing by corporations. At that time, it was widely perceived that the capital inflows were attributable to bright investment prospects associated with a stable macroeconomic environment and high growth performance.[9)]

Traditionally, macroeconomic boom coupled with private capital inflows is dangerous because it is prone to entail external imbalances and overvalued exchange rates. However, it is difficult to attribute the Korean crisis to exchange rate misalignment. After the mild depreciation in the early 1990s, massive capital inflows during 1994–96 put appreciation pressures on the Korean won. To offset the pressures, the government relied on restrained sterilization, and managed to curb the abrupt appreciation of the won and resultant increase in the current account deficit. During early 1994 to mid 1995, the exchange rates mildly appreciated. However, the current account balance sharply deteriorated from mid 1995, resulting in the depreciation of the Korean won by offsetting the downward pressures of the capital account surplus. The Korean economy experienced large negative terms of trade shock in the second quarter of 1996, which caused a significant depreciation pressure on the Korean won. As a result, the current account deficit in 1996 recorded the historical high – USD 23.7 billion.

Since all the regional currencies, except China's renminbi and the

9) Standard and Poor's upgraded Korea's sovereign credit rating in May 1997. This also contributed to further inflows of foreign capital into Korea.

Hong Kong dollar, lost value after the crisis, many economists and policy makers argued that these regional currencies were overvalued on the eve of the crisis. Although the lack of an operational definition of overvaluation is still troubling,[10] the price-based real effective exchange rates in Korea had been around the equilibrium until 1994, but was being *slightly* overvalued on the eve of the 1997 crisis according to our calculation in Table 7.[11]

〈Table 7〉 Trend of Real Effective Exchange Rates

1990.1	1991.1	1992.1	1993.1	1994.1	1995.1	1996.	1997.1	1997.4
111.39	104.62	100.26	100	97.86	92.02	90.51	93.66	96.06
1997.7	1997.10	1998.1	1998.4	1998.7	1998.10	1999.1	1999.4	1999.7
95.50	99.56	119.58	109.64	113.21	107.26	105.55	103.89	105.17

Note: The real effective exchange rates are calculated based on trade-weight, consumer prices index, and January 1993 as the basis year.

Rather than volume imbalances combined with unsustainable current account deficits, risks having led to the eruption of the Korean crisis were with liquidity imbalances. What mattered was too much of short-term capital inflows rather than capital inflows in general. And more correctly, rapidly rising short-term foreign currency liabilities taken by the Korean banking sector provided the source of the problem.

10) On the definition of overvaluation, see Chinn (1998), Milesi-Ferretti and Razin (1996), and Williamson (1994).

11) Radelet and Sachs (1998) reported that real effective exchange rate appreciated by about 12 percent in Korea between 1990 and early 1997. Chinn (1998), interestingly, reported that the Korean won was under-valued even before its recent discrete drop in value.

That is, as in Lane et al. (1999), a key element of vulnerability associated with capital inflows was the prevalence of un-hedged short-term foreign currency borrowing. This was to some and important extent a prudential issue, as it was reflected in currency and maturity mismatches in the portfolios of banks and other financial institutions. While foreign debt as a percentage of GDP increased in Korea, short-term debt rose considerably faster than total debt. Growth in short-term foreign liabilities also outpaced growth in available international reserves and created the potential for liquidity problems. In Korea, reserves had declined to about one third of short-term debt by the end of 1996.

〈Table 8〉 External Debt and Foreign Reserves

(In USD billion, %)

	1992	1993	1994	1995	1996	1997
Short-term Debt (A)	18.5	19.2	30.4	45.3	61	48.2
Total Debt (B)	42.8	43.9	56.8	78.4	104.7	126.8
Foreign Reserves (C)	17.1	20.2	25.6	32.7	33.2	20.4
(A)/(B) (%)	43.22	43.74	53.52	57.78	58.26	38.01
(A)/(C) (%)	108.19	95.05	118.75	138.53	183.73	236.27

Source: The Bank of Korea

Also it partly explains why volume imbalances did not show up. While Korean banks rapidly expanded their foreign currency operations, the magnitude of the expansion was not correctly captured in domestic monetary indicators. This was so because about half of the foreign currency operations of the banking sector was handled by overseas branches whose transactions were not reflected in domestic monetary indicators. Had the short-term external liabilities of overseas branches been taken into account, the foreign reserves would have been said to be far less sufficient than was the case in terms of buffer against possible liquidity runs by foreign creditors. Moreover, the management of foreign currency liquidity risks at the individual bank level was not adequate enough to forestall the liquidity crisis either. Most financial institutions, particularly merchant banks and overseas branches of commercial banks, were suffering from a serious maturity mismatch problems as the crisis unfolded.

〈Table 9〉 Short-Term Foreign Currency Liabilities of the Financial Sector

(In USD billion)

	1992	1993	1994	1995	1996	1997
Short-term External Debt	11.3	11.4	19.4	29.7	39.2	27.4
Short-term Liabilities of Overseas Branches	18.5	21.1	28.0	33.4	39.0	20.3
Total	29.8	32.5	47.4	63.1	78.2	47.7
Foreign Reserves	17.1	20.2	25.6	32.7	33.2	20.4

Source: The Bank of Korea

E. Causes of Liquidity Imbalances or Short-termness

Why did short-term foreign currency liabilities grow to the extent of risking a crisis? To put it in a different way, which aspects of the liberalization policy might be taken responsible for it? The answer seems concerned with not what the liberalization policy did, but what the policy did not do.

Although the amount of short-term foreign currency liabilities by the Korean banks had jumped since 1994, their over-reliance on short-term foreign debts was nothing new. As Table 10 shows, the shares of short-term foreign currency liabilities of the banks remained constant high at around 65~70% since 1992, for which the earliest data is available. It implies that the Korean banks were accustomed to the associated risk taking well before the surge of capital inflows and that underlying factors for the behavior of the banks must have been in place all along.

⟨Table 10⟩ Ratios of Short-term Foreign Currency Liabilities of the Korean Banks

(%)

	1992	1993	1994	1995	1996	1997
Domestic Branches	48.1	46.7	58.3	60.2	58.5	44.0
Foreign Branches	92.0	91.3	88.1	81.1	73.9	51.2
Total	68.3	68.4	72.8	69.7	65.3	46.5

Source: The Bank of Korea

What could be the factors? It is hard to think of anything other than implicit insurance provided by the government.[12] In the presence of the insurance, the Korean banks have chosen the more risky liability structure to maximize the value of the insurance.[13] Besides, foreign creditors preferred demand deposit-type contracts that provided them with utilizing the insurance.[14] Alternatively speaking, in the interna-

12) Indeed, Dooley and Shin (1999) argues that the Korean crisis could be explained under the framework of the insurance model.

13) Merton (1977) shows that insured banks seek to maximize the value of insurance by selecting the riskiest portfolio.

14) Prudential regulations sometimes provide an additional stimulus for foreign short-term interbank lending. For example, the 1988 Basle Capital Accord requires only a 20 percent risk weight for the computation of the capital adequacy ratio for short-term interbank exposure to non-OECD countries, while exposures over one year have to be weighted at 100 percent. Moreover, the same rules discriminating in favor of interbank lending by applying the concessionary 20 percent risk weight to interbank exposures, as opposed to corporate loans or bonds. See Yeyati (1999).

tional financial markets, the value of insurance was partly reflected by interest differentials between short-term and long-term debts of the Korean banks. And the Korean banks enjoyed the insurance by over-taking apparently cheap short-term liabilities.

Of course, a valid question arises why the banks opted for taking advantage of the insurance more aggressively by increasing foreign currency liabilities since 1994. For this, however, it needs to be pointed that the banks were increasing their liabilities in the domestic currency as well at about the same pace. In other words, the banks might be increasing the over-all risk by lowering capital-asset ratios, which Dooley and Shin (1999) argues for. What could be the reasons? Tentatively, the following two can be considered. First, it could be the case that as the economy entered the upswing of business cycle, the risk after taking the macroeconomic risk into the account might not have changed. That is, it was just cyclical in the first place, which inadvertently turned into a disaster. Secondly, there could be changes with charter values of the banks or monitoring so that the value of insurance rose. As a result, the banks increased risks of portfolio.

Between the two, we prefer the latter and Dooley and Shin (1999) presents some evidences. They argue that other thing being equal, charter values of the banks were declining and it led the banks to take more risk.

Ⅲ. Lessons

A. Strengthening Prudential Regulation and Supervision

In Korea, the problem of under-capitalization of banks was neither fully acknowledged nor properly addressed. The BIS capital adequacy requirement was introduced for all commercial banks in 1992. Banks were required to meet the minimum ratio of 7.25 percent by the end of 1993 and the full 8 percent standard by the end of 1995. It appeared that banks had no difficulty in satisfying the BIS ratios of 16 nationwide commercial banks on average ranged around 9 percent. Even at the end of 1997, immediately after the crisis, that figure remained at 8.67 percent. Moreover, those five non-viable banks that were closed in June of 1998 by the Financial Supervisory Commission (FSC) were reported to have the BIS ratios of 7.4 percent to 9.6 percent as of the end of 1997.

However, the reported BIS ratios did not accurately reflect the true state of banks' financial soundness for various reasons. More importantly, Korea's standards with respect to risk management fell short of global standards. Inadequate loan loss provisions, partial recognition of stock revaluation losses, and loose loan classification standards and accounting rules led to a discrepancy between official numbers and the actual state of the banks' health.

Establishing a system of prudential regulation and adequate supervision must be taken as an essential prerequisite for capital market liberalization. Indeed, in Korea, expansion of domestic banks' overseas operation lacked in appropriate supervision. No regulation existed on foreign currency liquidity risk management by mid of 1997 in contrast to domestic currency operation.

For every questionable borrower, there must be a questionable counterpart. As pointed out in Yeyati (1999), governments in lender countries should also penalize high-risk investments abroad by incorporating a realistic assessment of the associated credit risk. Otherwise, government in borrower countries may be forced to assume a more active stance to prevent overborrowing (or overlending) and to avoid the adverse impact that massive inflows of funds may have on the financial soundness of the country.

B. Strengthening Corporate Governance

Overseas direct investment of Korean firms became active in the 1990s. And in fact, strong overseas investment of Korean firms constituted the growing assets in the balance sheets of overseas branches of banks. In other words, expanded liabilities of overseas branches of banks were tantamount to rising overseas investment of Korean firms. Notably, suspicion has been raised that this investment behavior of firms may be an outgrowth from the band wagon effect. Large conglomerates pursued overseas direct investment most vigorously in order to cope with rising domestic factor costs in the one hand, and to achieve international prestige on the other hand. However, due deliberation of the profitability of the overseas investment projects were somewhat lacking.

After the crisis, it was recognized that the vulnerabilities in the financial and corporate sectors in Korea were attributable, in part, to deficiencies that undermined governance and market discipline. In order to promote corporate governance, the Korean government has improved corporate disclosure requirements and accountability to shareholders, as well as the transparency of economic and financial data.

C. Promoting Foreign Direct Investment

Foreign direct investment (FDI) flows, in general, do not enter any financial market. They are basically internal to each firm, and an inflow is usually irrevocable, or only partly revocable if possible. In this regard, FDI has been regarded as the most stable and dependable source of foreign capital inflows.

Although the Korean government made efforts to liberalize FDI, its basic stance towards FDI had remained passive until the crisis broke out. However, the crisis became a momentum to change the government's long-cherished passive position to active one. As a result, the government enacted the Foreign Investment Promotion Act. This new legislation focuses on creating an investor-oriented environment by streamlining FDI procedures, expanding investment incentives and establishing an institutional framework for investor relations, including the one-stop services. The Korean government also undertook full-fledged liberalization in the area of hostile cross-border mergers and acquisitions and foreign real estate ownership.[15]

A modest net increase was recorded in 1997, despite a strong upward trend in the first half of the year, due to the tapering off of FDI inflows noticeable towards the end of 1997. Picking up markedly during the spring and summer of 1998, FDI inflows reached a record of USD 5.4 billion for 1998 as a whole. So far in 1999, this momentum

15) For further reference, see Kim (1999).

seems to continue, with net FDI inflows of USD 3.2 billion during the first six months of the year.

D. Orderly Liberalization: How to Sequence the Capital Market Opening?

As explained above, the most serious sequencing problem was to liberalize short-term financing rather than long-term financing, through banks, and to underestimate the potential devastating impact on the economy when massive capital inflows have come to reverse. Although long-term capital inflows were rather repressed during the pre-crisis period, it would be an exaggeration to say that short-term capital movements were liberalized greatly. Neither firms nor banks could sell their short-term debt instruments in domestic currency to foreigners. Only liberalized were trade-related financing of firms and short-term foreign currency borrowings of banks. The intention was clear: liberalize first capital flows that are only trade related. Then, a subsequent question arises on what should be done with short-term foreign currency borrowings of banks. Should the Korean government have restricted short-term borrowings of banks? Probably not. It is extremely costly to control short-term transactions of banks. What was lacking was financial supervision and appropriate risk management. Without strengthening banking supervision and enhancing corporate governance, corporate debt crisis will be an inevitable outcome. In this regard, the main lesson of the Korean crisis is not the sequencing problem in the capital market liberalization, but the structural deficiencies as prerequisites of capital market liberalization.

Ⅳ. Postscript

The Asian crisis started on July 2, 1997 with Thailand's sudden decision to float the baht. On July 11, about a week later, the Philippines and Indonesia respectively widened the trading bands of their currencies (peso and ruphia) from 8 percent to 12 percent. On July 14, Malaysia abandoned the defense of the ringgit. Indonesia finally abolished its managed floating system on August 14. In the midst of this economic maelstrom, the Korean won also quickly depreciated, following a futile currency defense that costed Korea most of its foreign reserves. This forced Korea to seek financial assistance from the IMF on November 21, 1997. Korea widened its won trading band from 2.25 percent to 10 percent on November 19, and finally abolished its band and allowed the won to float on December 16.

With the free floating exchange rate system in place, the Korean government also substantially accelerated its capital account liberalization. Under the IMF program, the Korean government agreed to undertake bold liberalization measures; in fact, the Korean government has taken much of the initiative behind this. Not only were all of the capital markets, including the short-term money markets, was completely opened to foreigners.

Under the initial IMF program, set out in early December 1997, the government raised the ceiling on overall foreign ownership of stocks to 50 percent in 1997 from the previous ceiling of 26 percent. The individual ceiling was also raised from 7 percent to 50 percent. These ceilings were lifted completely on May 25, 1998. All regulations on foreign purchases of debt securities were eliminated in December 1997. As of December 1997, all domestic enterprises, regardless of size, were allowed to borrow without limit from overseas as long as the maturity does not exceed one year. All the short-term money market instruments, such as commercial paper and trade bills, were also completely liberalized on May 25, 1998, and this has brought Korea's capital markets on a par with the level of openness of the advanced economies.

The liberalization of restrictions on capital movements was accompanied by a relaxation of rules governing the use of foreign exchange. The Korean government established a simple and transparent framework to replace the cumbersome laws and regulations that had governed such transactions. The new Foreign Exchange Transactions Law replaced the old Foreign Exchange Management Law, and took effect in April 1999. In particular, it replaced the positive list system with a negative list, which allows all capital account transactions except for those expressly forbidden by law. While foreign exchange dealings in the past had to be based on *bona fide* real demand, speculative forward transactions are now permitted. This far-reaching liberalization is important in bringing Korea closer into line with the market-oriented principles adopted in more advanced foreign exchange markets.

The new system is to be implemented in two stages, April 1999 and the end of 2000, in order to allow sufficient time to improve prudential, regulatory and accounting standards before full liberalization. The first stage of the new system eliminated the one-year limit on commercial loans while liberalizing various short-term capital transactions by corporations and financial institutions (see Appendix). Moreover, foreign exchange dealing was opened to all financial institutions.[16]

16) Financial institutions satisfying the government-set requirements, such as

The government also implemented appropriate measures that could counter excessive instability in the foreign exchange market caused by further liberalization measures. As of January 1999, the supervisory authority on domestic financial institutions' soundness in foreign assets and liabilities was transferred to the Financial Supervisory Commission, making it solely responsible for the nation's financial supervisory function. The required foreign currency liquidity ratio of more than 70 percent for foreign exchange banks has been applied to all overseas subsidiaries and offshore accounts of domestic financial institutions since July 1998.

By establishing a comprehensive computer network system that can oversee all foreign exchange transactions, including currencies, stocks, and futures markets, the government is now undertaking a close monitoring. With this monitoring system in place, the government also established an international financial center to operate an "early warning system" to foresee a possible currency crisis and to make appropriate counter measures. To limit the risk of a systemic crisis, the liberalization of short-term capital transactions has been allowed only for "financially-sound enterprises." With the abolition of *bona fide* principles in forward contracts, the government decided to maintain a restriction on non-residents' borrowing in the Korean won to a certain limit. The new law also establishes a safeguard measure to be used in case of an emergency.

In tandem with the first stage of foreign exchange liberalization, another two important institutional changes are worthy of note. First, the commercial foreign exchange broker system was introduced, in

necessary computer system, will be allowed to conduct foreign exchange dealing businesses.

January 1999, by allowing private organizations to establish brokerage firms. Also the Fund Trading Center, the public foreign exchange broker which enjoyed the monopoly position in interbank trading, became a commercial company. Currently, two commercial foreign exchange brokers are competing in interbank transactions. However, as trading volume grows in the Seoul Foreign Exchange Market, more brokers are expected to enter the brokerage market.

Second, currency futures and options were introduced in the Pusan Futures Market in April 1999 so that companies and financial institutions exposed to foreign exchange risks could effectively use these hedging instruments.[17] Due to the fact that only large companies with good credit ratings could gain access to forward foreign exchange contracts, most small and medium-sized companies could not find relevant risk-hedging instruments in the foreign exchange market before the currency futures were introduced.

Recent performance in the Korean futures markets is reported in Table 11. Although this currency futures market was originally expected to function as a hedging market for small and medium-sized exporting companies, the share of individual traders is only 10.4

17) Currency hedging products have usually emerged as countries have moved from managed floating regimes to more fully floating ones. Currency futures, since they are traded on organized exchanges, give benefits from concentrating order flows and providing a transparent venue for price discovery, while over-the-counter forward contracts rely on bilateral negotiations at often unpublished prices. However, despite the growing demand for such products, currency futures contracts are still in the early stages of development. See Jochum and Kodres (1998) for more elaboration on the introduction of futures on emerging market currencies.

percent. The discouraging performance is mainly due to two factors. First, small and medium-sized companies do not have relevant in-house human resources to participate in the currency futures market. Although they recognize the need for covering the exposures to the exchange rate risks, market participation also incurs additional and sometimes unbearable costs. Second, spot exchange rate fluctuations have become moderate despite many uncertainties in the financial markets. This relative stability in the foreign exchange market during the post-crisis period significantly reduced the incentives to invest in futures contracts.

〈Table 11〉 Recent Performance of Pusan Futures Market: Daily Average Contracts

	CD Futures	Sovereign Bond Futures	Dollar Futures	Dollar Call Options	Dollar Put Options	Gold Futures	Total
April	278	-	240	66	59	73	716
May	643	-	372	26	26	28	1,096
June	635	-	687	205	145	23	1,694
July	4,097	-	1,622	433	328	107	6,587
August	3,328	-	1,321	207	232	66	5,153
September	5,084	678	1,942	139	112	197	7,541
October	2,304	5,584	1,592	16	41	96	9,632
Average	2,581	5,039	1,196	176	150	84	4,896
Cumulative	330,373	90,699	153,056	22,522	19,261	10,772	626,683

〈Appendix I〉 The First Stage of Foreign Exchange Liberalization (April 1999)

Area	Liberalization Measures
Current Account Transactions	- Abolition of restrictions on companies current account transactions with foreigners
Transition from a Positive list to a Negative list system	- Abolition of restrictions on the use of loans borrowed by the foreign subsidiary of a domestic company - Companies are allowed to borrow overseas at maturity of less than one year and issue overseas securities - Deposit by non-residents with maturity of more than one year and their investment in trust funds are allowed - Removal of restrictions on foreign direct investment abroad by companies and financial institutions (including the unrestricted establishment of overseas branches) - Companies' and financial institutions' investment in foreign real estate is permitted - Investment in overseas securities by domestic institutional investors is allowed - Domestic issuance of securities by foreigners is allowed domestic foreign exchange banks is permitted - Abolition of the real demand principle
Foreign Exchange Dealing	- All types of domestic or foreign financial institutions can deal in foreign currencies - Establishment of money exchange booths is allowed

Source: Ministry of Finance and Economy, Korea

〈Appendix II〉 Measures to Prevent a Currency Crisis

Area	Measures
Establishment of a Monitoring system	- Creation of a computer system to monitor speculative transactions in the foreign exchange, stock, bond and futures markets - Establishment of an "International Financial Center" to provide an early warning system against a currency crisis
Precautionary Measures	- Restrictions on short-term overseas borrowings by financially unsound companies - Restrictions on foreigners' borrowing of more than 100 million won at a maturity of less than one year - Requirement that securities with less than one year maturity issued domestically by foreigners be approved by MOFE
Emergency Measures	- Partial or complete freeze on foreign exchange transactions - Concentration of foreign currencies in the central bank - Capital transaction authorization system - A variable deposit requirement on capital inflows

Source: Ministry of Finance and Economy, Korea

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國文要約

국제금융시장의 내재적 불안정성은 대부분의 신흥시장국가에게 잠재적 위험으로 작용하고 있다. 따라서 개별국가는 물론이고 국제사회는 국제금융시장의 체계적 위험을 최소화하려는 노력을 기울여야 할 것이다. 특히 개별국가 차원에서 자본시장의 개방은 새로운 시각에서 조명되어야 할 것이다. 질서있고 순차적인 자본자유화에 대한 오랜 통념 중의 하나가 단기자본의 자유화보다 장기자본의 자유화가 선행되어야 한다는 것이다. 그러나 최근의 외환위기 경험은 자본자유화의 순서 그 자체보다는 단기자본의 변동성에 따른 국제금융시장의 불안정성에 초점이 맞추어져 있다.

칠레식 자본통제는 위기발생 이전에 단기자본의 유입을 억제하기 위한 수단으로 국제사회로부터 어느 정도 필요성을 인정받고 있다. 한편 말레이시아식 자본통제는 흔히 위기발생 이후에 취해지는 자본유출에 대한 통제로 아직까지 국제사회는 그 효과에 대해 회의적인 입장을 견지하고 있다. 그러나 대다수의 신흥시장국가들은 국제금융시장의 잠재적 불안정성이 충분히 해소될 기미가 보이지 않는다면 헤지펀드에 대한 규제를 포함하여 단기자본 유출입에 대한 규제를 지지하는 입장을 보일 것이다.

이와 같은 최근 정책적 관심의 발전과정이 시사하는 바는 자본자유화의 순서에 대한 문제가 좀더 포괄적인 범주에서 논의되어야 한다는 것이다. 즉, 본고의 목적은 자본이동의 다양한 수단에 대한 단순한 검토가 아니라, 국내 및 해외의 금융기관, 기업 등 자본이동에 관련한 이해당사자들의 인센티브 문제를 충분히 고려해야 한다는 점을 강조하는데 있다.

한국의 자본자유화 과정에 있어서 가장 심각한 문제로 흔히 은행부문을 통한 단기차입이 장기차입을 크게 초과했다는 점이 지적되고 있다. 또한 막대한 자본유입이 역전될 경우 발생하는 경제적 충격을 충분히 고려하지 못한 결과 외환위기를 맞이하게 되었다는 것이다. 이는 현대판 외환위기는 자본계정상의 대외부채의 구조가 그만큼 중요해졌다는 것을 의미한다. 즉 만기 및 통화불일치 문제를 적절히 해소하지 못할 경우 급격한 대외신인도의 저하는 단순한 외환위기로 그치는 것이 아니라, 엄청난 자본역전에 따른 급격한 경기위축을 수반하게 된다. 한국의 경우 장기자본유입이 외환위기 이전에 억제되었던 것은 사실이지만, 이는 역으로 단기자본이동이 그만큼 자유로왔다는 것을 의미하지 않는다. 단지 자유화되었던 것은 기업의 무역금융과 은행의 단기차입이었다.

그렇다면 기업의 무역금융과 은행의 단기차입을 최대한 억제하는 것이 최선의 대안이라고 할 수 있는가? 이 점에 대해서 해답은 매우 부정적이다. 은행의 단기자본거래를 통제하는 것은 상당한 비용을 수반하기 때문이다. 보다 중요한 것은 금융기관의 건전성 감독 강화와 금융기관 및 기업의 자발적인 위험관리체제의 구축을 통해 대외부채의 환위험을 적절히 해소하는 것이다. 환율이 아무리 상승한다고 해도, 대외부채의 만기 및 통화불일치 문제가 없다면 환위험으로부터 해방될 수 있을 것이다. 그러나 적절한 감독체계가 미흡한 상태에서 개별 금융기관과 기업들은 환위험을 충분히 해소해야 할 인센티브를 발견하지 못했던 것이다. 따라서 한국의 자본자유화 경험으로부터 얻을 수 있는 교훈은 자본자유화의 순서 그 자체보다는 자본자유화의 실익을 극대화할 수 있는 제도적 장치가 미비되었다는 점에서 외환위기의 원인을 찾아야 한다는 것이다.

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서울대학교 경제학과 석사(1989)
미국 스탠포드대학교 경제학 박사(1997)
한국개발연구원 연구위원(現, E-mail: ishin@kdiux.kdi.re.kr)
著書 *Private Inflows when Crises are Anticipated: A Case Study of Korea*(공저, 2000)
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王允鍾

서울대학교 경제학과 졸업(1985)
미국 예일대학교 경제학박사(1993)
대외경제정책연구원(KIEP) 연구위원(現, E-mail: yjwang@kiep.go.kr)
著書 *The Asian Financial Crisis and the Need for Regional Financial Cooperation*(1999)
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발 행 인	李 景 台
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