Annex 2 Korea

Introduction

This annex provides a detailed assessment of the role of the IMF in Korea's capital account crisis of 1997–98, focusing on the role of the IMF in precrisis surveillance and in the process of crisis management.

The annex is organized as follows. First, it evaluates the effectiveness of IMF surveillance in identifying underlying vulnerabilities and the potential risk of crisis. It then discusses issues of program design, including monetary and exchange rate policy, fiscal policy, financial sector reform, and nonfinancial structural reforms. Next, it examines the appropriateness of program financing and the role of the IMF in the debt rollover agreement of late December 1997. The final section presents conclusions.

Precrisis Surveillance

With the benefit of hindsight, one can identify several weaknesses in the IMF's surveillance of Korea during the period leading up to the crisis. This section discusses two areas in which these shortcomings proved to be most damaging: the analysis of the vulnerabilities introduced by the uneven process of capital account liberalization; and the initial assessment of the risk that the crisis spreading through Asia in the fall of 1997 would soon hit Korea.

Underlying vulnerabilities

Throughout the 1980s and the first half of the 1990s, the Korean authorities alternately liberalized and restricted both inward and outward capital account transactions in pursuit of their policy goals for the external sector.[1] Thus, in the early 1980s, capital inflows were liberalized and capital outflows restricted to assist the financing of current account deficits. Later in the decade, when Korea began to run substantial current account surpluses, controls were reimposed on inflows and controls on outflows were eased. The environment of current account surpluses also contributed to the authorities' decision, in 1988, to fully liberalize current account transactions and thereby accept the obligations of Article VIII of the IMF's Articles of Agreement.

When current account deficits reappeared in the early 1990s as a consequence of the strong won and the global recession, the Korean government again imposed controls on purchases of foreign exchange by residents and removed controls on certain categories of capital inflows. The stock market was opened to foreign investors in 1992, though with ceilings on the fraction of a given company's shares that could be held by any foreigner individually and by foreigners in aggregate. FDI was partially liberalized. Short-term borrowing by banks and certain nonbank financial institutions was liberalized in the mid-1990s. Merchant banks, which would later play a central role in the 1997 crisis, were at the forefront of institutions taking advantage of the easier rules on overseas borrowing (Box A2.1).

As a result, capital inflows surged, which led to upward pressure on the currency. Significantly, rather than attempting to restore balance by reimposing controls on inflows, as might have been done in the past, the authorities instead chose to liberalize outward portfolio investments by Korean residents. A Foreign Exchange System Reform Plan was issued in December 1994, which outlined a gradual, staged liberalization process for the capital account and the foreign exchange market.

In spite of the overall commitment to freeing capital flows, this process had not moved very far by 1997. Korea still maintained substantial controls on many capital account transactions, particularly on the external issuance of long-term bonds and long-term commercial loans by financial and nonfinancial entities. Limits also remained on foreign participation in domestic equity and bond markets. The decision to pursue liberalization of capital inflows had in part resulted from lobbying by the business community, which wanted to take advantage of relatively low short-term interest rates in global markets. Yet many reform-minded officials, while favoring the liberaliza-

[1] Much of the background material in this section is drawn from Kim and others (2001) and Johnston and others (1997).

Box A2.1. Merchant Banks in Korea

The merchant banks, most of them owned by *chaebol,* had been created from short-term finance companies, which in turn had been established in 1972 to facilitate "curb market" transactions, that is, those not permitted to the established commercial banks. The policy of liberalizing short-term flows before long-term flows and restricting direct capital-raising by nonfinancial firms gave the merchant banks a profitable market niche. They acted as intermediaries for *chaebol*-affiliated firms, discounting commercial paper and reselling it to commercial banks. They also offered cash-management accounts and other instruments to investors, and dealt in corporate promissory notes. These opportunities proved to be so lucrative that 24 new merchant banks were established between 1994 and 1996. The merchant banks were required to keep their currency exposures in balance, but there were many loopholes in these rules and supervision was poor. For their part, commercial banks felt pressure to compete with the merchant banks, and began to borrow abroad at short maturities as well.

tion of financial markets as a general principle, resisted measures to allow firms to raise funds directly from foreign bond investors. It was feared that this would enhance the power of the large conglomerates (the *chaebol*) at the expense of small and medium-sized enterprises. As a result, in the mid-1990s, a new policy was initiated that deliberately steered capital inflows through domestic financial institutions.

Even Korea's accession to the Organization for Economic Cooperation and Development (OECD) in December 1996 did not lead to a substantial additional opening of capital markets. Joining the OECD was seen as an important political goal and as a way to reduce borrowing costs,[2] but in the accession talks the authorities resisted efforts to bring Korea's capital account regulations in line with those of other OECD members.[3] In taking this stance, the authorities cited their concern about the consequences of a sharp increase in capital inflows, given prevailing interest rate differentials. The policy of permitting short-term borrowing and restricting long-term flows allowed the authorities additional flexibility vis-à-vis the OECD's rules, which grant members the right to "roll back" previously adopted liberalization measures with respect to most short-term capital movements but not those regarding long-term movements.

The decision to liberalize short-term transactions before long-term ones had unintended consequences. Given the opportunity, the *chaebol* and the banks would probably have strived to secure long-term financing even at the expense of a small term premium. If a greater share of Korea's external debt in 1997 had been in the form of long-term instruments, issued by a mix of financial and nonfinancial institutions, rather than in the form of short-term bank debt, the character of the December crisis would have been different and probably less damaging. For one thing, a diversity of financing channels might have made the system more resilient to a breakdown in one channel, in this case interbank loans to overseas branches and subsidiaries. If the international market for the long-term debt of Korean nonfinancial corporations had been deeper and possessed a lengthy, successful track record, then foreign investors might have been willing to continue financing investment by healthy borrowers, while avoiding troubled corporations and banks.[4]

Moreover, if more of Korea's external debt had been at longer maturities, the sudden drop in the market's confidence in the Korean financial system might have led to an explosion of spreads and a severe credit crunch, but not a liquidity crisis. This is because holders of maturing short-term debt can demand payment from the original issuers, forcing the latter to rush to obtain cash or liquid assets, while holders of long-term debt that has been downgraded but has not yet matured can only sell the obligations to other investors (or simply write down the loss).

The distinction is important because liquidity crises tend to spread more rapidly and have a broader impact than do incidents where perceived levels of credit risk merely rise sharply. In a foreign exchange liquidity crisis, there is the further risk that the authorities will impose a standstill on payments. As a result, the risk premium imposed by foreign investors on *all* borrowers increases, regardless of their creditworthiness. Creditors, concerned over whether any borrower will be able to honor their foreign exchange–denominated obligations, may demand repayment as soon as these obligations mature. Once some creditors start to take this approach, all creditors find themselves forced

[2]The capital accords agreed by the Basel Committee on Banking Supervision in 1988 allowed a lower capital charge for obligations of (or guaranteed by) OECD member governments and for short-term loans to banks based in OECD member countries. However, the accords only prescribed a minimum charge. Regulators were free to set a higher charge for specific borrowing countries.

[3]Members of the OECD agree to adopt the organization's legal instruments, including the *Code of Liberalization of Capital Movements* and the *Code of Liberalization of Current Invisible Operations* (covering cross-border financial services). These codes incorporate a commitment to move toward full liberalization and not to introduce new restrictions. The existing members of the organization make the final decision on accepting new members, based on the recommendation of the OECD secretariat and committees.

[4]This indeed occurred to some extent at the domestic level in the first half of 1998, but could not happen at the international level because Korean borrowers were not well enough established on international capital markets.

to do so, introducing dynamics that are strongly reminiscent of a bank run (Radelet and Sachs, 1998a). By contrast, in a credit crunch that is not a liquidity crisis, the market's ability to distinguish between good and bad borrowers eventually returns, even if risk premiums may increase for a time on all borrowers. Creditors do not demand repayment from creditworthy borrowers simply because they fear that liquidity will run out. The extent of damage to the real economy is therefore likely to be less.

The IMF followed Korea's capital account liberalization process closely and, through Article IV consultations, regularly urged the authorities to establish and follow a steady timetable for liberalization. However, staff papers and Board discussions were concerned primarily with the speed of liberalization (typically recommending a faster process) and with whether it should be contingent on the convergence of Korean interest rates to international levels (typically concluding that it should not). Issues of sequencing and supervision were inadequately addressed in the surveillance process, though these topics were attracting increasing attention elsewhere in the IMF.[5] According to staff members interviewed by the evaluation team, the focus on capital account liberalization in Korea reflected the IMF's belief that liberalization of its external accounts would encourage the authorities to pursue genuine reforms of the domestic financial sector, including improvements in supervision.

One reason why surveillance failed to highlight the potential vulnerabilities in Korea's external accounts was that the IMF—along with many others at the time—thought of the capital account solely in terms of transactions between residents and nonresidents. For this reason, short-term borrowing by overseas bank branches and subsidiaries was not recognized as an important issue. For example, a study of capital account liberalization in Korea and three other countries conducted by MAE and published in November 1997 exhaustively catalogued the liberalization measures undertaken by each country and the associated developments in transaction volumes (Johnston and others, 1997). Yet this paper did not draw attention to the growth in borrowing by Korean overseas bank affiliates, except to mention that the establishment of overseas branches and subsidiaries had been permitted as part of the liberalization of *outflows* of direct investment. The authors did not treat borrowing by the affiliates as potentially equivalent to borrowing by their parent institutions.[6]

Assessment of the risk of crisis

The prevailing IMF view in the early months of 1997 was that, while Korea faced problems in its financial sector that were potentially very serious and that needed to be addressed promptly, there was no risk that this would lead to a loss of confidence and crisis-inducing capital account outflows. There was some concern at the widening current account deficit, but these concerns dissipated as the deficit narrowed in the first half of 1997. The failure of Hanbo Steel was treated as a political matter, because of its impact on the standing of the ruling party, rather than in terms of the impact of further failures of *chaebol* on the health of the banking sector. The IMF's view, which was shared by many (though not all) other public and private sector observers at the time, was influenced by Korea's strong macroeconomic record and its proven ability to raise foreign funds with little difficulty.

As the East Asian crisis spread in the summer and fall of 1997, there were grounds to reassess this view. Because of the activity of their overseas branches, Korean banks faced a maturity mismatch between their foreign currency assets and liabilities, while the *chaebol* to which the banks had lent in dollars faced a currency mismatch. Much of the Korean banks' debt was at short maturities and was vulnerable to a decision by foreign lenders not to roll it over. Their situation was reminiscent of those of the financial sector in Thailand and the corporate sector in Indonesia. Market commentary and credit spreads indicated that international investors and bank lenders were reappraising the riskiness of their exposure to the East Asian region as a whole.

The IMF was aware of these issues. In internal memos circulated in August and September 1997, the staff criticized the support package put together by the authorities in response to growing financial sector problems, on the grounds that the package fell far short of what needed to be done to restructure the financial sector. The guarantee extended to the external liabilities of Korean banks in late August was especially troubling. In the staff's view, the guarantee raised the risk of a spillover of domestic financial difficulties into the external sector, because to honor the guarantee the authorities would either have to borrow on international capital markets or dip into foreign exchange reserves.

The Article IV consultation mission that visited Korea in October 1997 included a staff member from MAE, who produced a detailed analysis of financial

[5]See for example Folkerts-Landau and Lindgren (1998), a draft of which had begun circulating internally in late 1997.

[6]The same report noted that increased net private inflows had been associated with increased domestic credit growth, inflation, and current account deficits in Korea, Thailand, and Indonesia, but not in Chile, where capital inflows seemed to *substitute* for domestic credit growth. One reason for this, the authors suggested, was that Chile had done more to improve prudential standards before starting to liberalize its capital account. At the time the paper was written, Thailand had already been hit by a crisis, and Indonesia had started to experience its own difficulties. But the appropriate parallel to Korea's vulnerability was not drawn.

Figure A2.1. Won–U.S. Dollar Exchange Rate and Korean Equity Prices

Source: IMF database.

stability issues. Yet, while acknowledging the possibility of a spillover from the financial sector to the capital account, the mission concluded, in its back-to-office report, that Korea was "relatively well equipped" to handle further external pressures.[7] Because of this assessment, which was heavily influenced by incomplete reporting on the part of the authorities about their reserve position (see below), there was no attempt to analyze rigorously Korea's vulnerability to a cutoff of external short-term financing until after the country's usable foreign exchange reserves were all but depleted. Had such an analysis been attempted earlier in 1997, important data gaps might have been recognized sooner, particularly in such areas as the nature of the BOK's advances to commercial banks, the ability of the authorities to access these funds in a crisis, and the multiple strains on Korea's dwindling stock of foreign exchange reserves.

The failure of IMF bilateral surveillance to identify Korea's vulnerability to a crisis was not unique. Other observers in the private sector were also caught off guard. In retrospect, one can attribute the failure on the part of the IMF to five misconceptions, which were compounded by critical information gaps.

First was the *misestimation of the degree of flexibility in the country's exchange rate policy*. The briefing paper for the October Article IV consultation mission lists, as one of the reasons for the staff's view that Korea faced only a "moderate" risk of a foreign exchange crisis, "the relatively flexible exchange rate policy and absence of indications of exchange rate overvaluation." It noted that the Korean won had depreciated almost 17 percent against the dollar since the beginning of 1996, reversing an earlier period of appreciation. Yet, depreciation up to that point *in response to the Asian crisis* had been very limited (Figure A2.1). At the time the paper was written, the won had depreciated barely 2 percent since July 1, 1997, after having weakened 8 percent from October 1996 to July 1997. The behavior of other Asian currencies at that time could have offered evidence that the won was being artificially supported. Singapore, which pursued a more flexible managed float from the beginning of the crisis, allowed its currency to depreciate 7 percent from the beginning of July 1997 to the end of September. Malaysia's currency fell 29 percent over the same period.

With regard to exchange rate policy, the mission team misconstrued the authorities' willingness to let the currency weaken further if foreign demand for Korean assets fell significantly. Internal documents suggest concern at the degree of foreign exchange market intervention, and particularly at the possibility that Korea might have adopted a large forward exposure, as had been the case for Thailand. At the end of the Article IV consultation mission, the staff advised the authorities to scale back such intervention. Yet, perhaps because of their judgment that the won was not overvalued, the staff did not put much emphasis on this issue. Instead, the IMF's policy advice to the Korean authorities focused more on the need to accelerate structural reforms than on macroeconomic policy. The staff at that point did not view an excessive commitment to support the won as a factor hindering Korea's ability to respond effectively to the crisis. The authorities' failure to share critical information with the staff about the extent and nature of their intervention, and about the actual status of their reserves, was central to the staff's misdiagnosis of the situation. In the event, the authorities' attempts to support the won during November through intervention would prove to be a critical drain on Korea's foreign exchange reserves.[8]

There was also excessive optimism regarding Korea's ability to prevent speculative pressure on the won. In September, the staff found reassurance in the fact that "the remaining capital controls [limited] the ability of international investors to take short positions in won." Yet the Thai experience should have shown that capital controls of this type cannot pro-

[7]The staff report for the 1997 Article IV consultation was never presented to the Executive Board because its relevance was overtaken by subsequent events.

[8]As an example of an alternative response to the regional crisis, Taiwan Province of China successfully fended off a potential crisis by moving to a more flexible exchange rate policy in mid-October. The New Taiwan dollar weakened roughly 8 percent in the three days following this policy shift.

tect a currency when domestic and foreign investors move decisively out of domestic assets through whatever channels are available. For example, as RES pointed out at the time, foreign investors could take short won positions in offshore derivatives markets. Downward pressure on the won would then be transmitted to the domestic market through hedging by the domestic Korean institutions that acted as market-makers in these instruments. In other words, pressure on the won, if it developed, would take whatever form it could.

Second, the staff *underestimated the risk of a breakdown in funding the capital account.* The staff recognized that such a risk was present, particularly in the crisis conditions then prevailing in East Asia, but concluded that the authorities could handle any pressures by making renewed efforts in the area of financial reform, by addressing financial sector weaknesses, and by loosening controls on long-term external borrowing. In part, this risk was underestimated because there was insufficient data on Korea's short-term external obligations (though some relevant data sources were overlooked). While the staff was concerned at the level of short-term external debt and pressed the authorities to lengthen the maturity structure of this debt, efforts to clarify these concerns, for example by requesting the appropriate data more forcefully, do not seem to have been pursued until the crisis had already broken out.

More fundamentally, the staff (and most other observers at the time) did not foresee the degree to which market sentiment would swing against Korea, and the consequences this would have for the provision of credit of all kinds. This shift in sentiment rendered the recommendation for looser controls on long-term borrowing moot; surely, if Korea had difficulty rolling over its short-term external debt, it would have even more difficulty refinancing its short-term debt at longer maturities.

Third, the potential *short-term impact on growth of problems in the financial sector was underestimated.* The September 1997 briefing paper contained three scenarios for macroeconomic developments in Korea: a "baseline" scenario positing growth of about 6 percent in both 1997 and 1998; a scenario assuming the adoption of the IMF's "preferred policies," under which growth would fall to 5.3 percent in 1997, then rise to 6.7 percent in 1998 (after which the outlook would remain higher than in the "baseline"); and "disorderly adjustment," a scenario supposedly incorporating a possible spillover of the domestic financial problems to external financing, resulting in growth of 4.0 percent in 1997 and 4.5 percent in 1998.[9] Slower growth in this last scenario resulted, not from a breakdown in financial intermediation or a fall in investment reflecting a drop in confidence, but from tighter macroeconomic policies in response to downward pressure on the won. Yet the experiences of other economies in the 1990s, such as Japan, Sweden, and Finland, showed that broad-based financial sector restructuring can have a serious impact on growth rates over a period of several years. The narrow range of growth estimates across the three scenarios, a reflection of the remarkable stability of Korea's growth rates over the previous decades, prevented the staff from exploring the possibility or, more importantly, the consequences of a more serious slowdown.

Fourth, *not enough attention was paid to relevant market indicators,* for example, the yield spread of Korean Development Bank (KDB) bonds (state-guaranteed obligations denominated in dollars) over U.S. treasuries, and the expected won depreciation implied by prices in the offshore nondeliverable forward market. As noted in Park and Rhee (1998), both of these began signaling profound market unease over events in Korea as early as August 1997 (Figure A2.2, top panel; and Figure A2.3, top panel). From August to October 1997, the bond spread widened and the nondeliverable forward rate indicated increased expectations of depreciation (though these movements would be dwarfed by developments during the crisis period).[10] Nowhere in the briefs leading up to the November program-negotiation mission can one find a reference to the negative signals emanating from these sources.

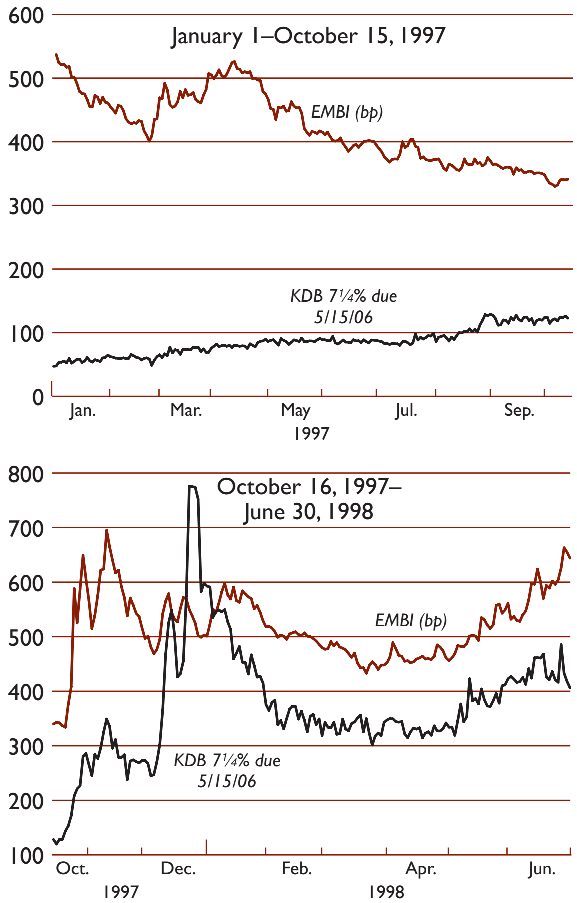
Finally, and more generally, bilateral surveillance in the years preceding the crisis was *not sufficiently sensitive to the short-term stability implications of financial sector liberalization.*[11] The prior experience of liberalization in other countries, such as the Nordic countries or the savings and loan crisis in the United States, was that liberalization tended to be followed by excessive lending and radical restructuring of the financial industry, with firms, consumers, and regulators learning the ins and outs of the new system through trial and error. The long-term benefits of such

[9]Given the strong growth that had already occurred in the first three quarters of 1997, this represented a prediction that there would be little or no growth in the fourth quarter, and growth below potential in 1998.

[10]Under conditions of full capital mobility and liquid money and bond markets, the forward won-dollar exchange rate would simply correspond to interest rate differentials between Korea and the United States, but these conditions were not present for Korea at that time. The forward rates in the nondeliverable forward market were more depreciated than those in the relatively thin onshore won-dollar forward market during this time, implying that the onshore rates were being artificially supported by official intervention (Park and Rhee, 1998).

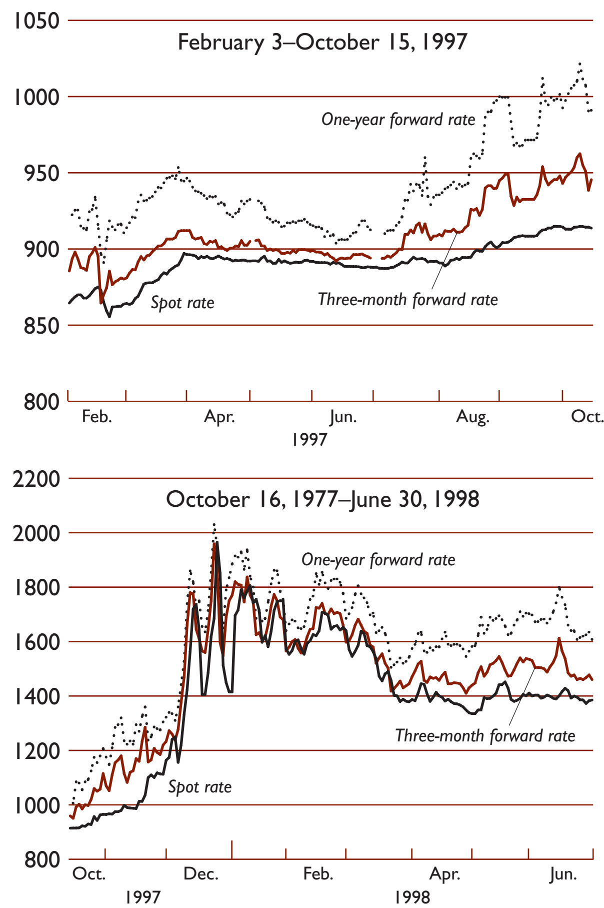
[11]However, many of the relevant issues were well known to the IMF staff, having been addressed in studies such as Lindgren and others (1996) and Alexander and others (1997).

Figure A2.2. Korean and Emerging Market Borrowing Spreads
(In basis points over comparable U.S. treasury rates)



Source: Datastream.

Figure A2.3. Won–U.S. Dollar Spot and Forward Rates[1]



Source: Reuters.
[1]The forward rates are implicitly derived from offshore nondeliverable forward prices.

liberalization came only after a period of experimentation and instability. The advice offered to Korea in the late summer and early fall of 1997, to the effect that the solution to the immediate problems of the financial sector lay primarily in strengthening and accelerating the reform agenda, may have been valid from the perspective of the long-term health and efficiency of the system, but did not offer much guidance as to how the Korean authorities should secure the system against the external shocks that had already started to hit nearby countries.[12] The Article IV consultation mission did urge the authorities to assess the extent of the banks' NPLs and the scope for provisioning. Relatively little advice was offered, however, toward the formulation of a strategy for restructuring and recapitalizing the banking sector in the face of a possible crisis, beyond general principles such as avoiding regulatory forbearance, limiting public support to the minimum necessary, and broadening the role of the KAMCO. This reflected the IMF's lack of experience at that time in the resolution of domestic financial sector crises.

While these factors were not adequately assessed in the IMF surveillance reports, there was recogni-

[12]The briefing paper prepared for the 1997 Article IV consultation identified four priorities for reform of the Korean financial sector: removing nonprudential controls on balance sheets, which had served as vehicles for political involvement; removing the implicit and explicit guarantees against bank failures; ensuring "a well-targeted safety net," an apparent reference to deposit insurance; and facilitating merger and acquisition activity in the financial sector.

tion internally that they may pose serious problems. A team from the RES Capital Markets Division had visited Korea earlier in the year, as part of their preparation for the annual *International Capital Markets* report, and had identified several weaknesses in the Korean financial system. Expanding on these findings, a member of the team later prepared an internal note detailing some of the vulnerabilities, including the NPL problems. Commenting on the Article IV pre-mission brief, RES cited the authorities' "widespread and unconditional" support for troubled financial institutions, the poor state of supervision and regulation, and the rapid rise in short-term debt as potential sources of risk. RES also expressed skepticism over the willingness of the authorities to allow the exchange rate to adjust in the way envisaged in the briefing paper, given their history of intervention.

In part, the shortcomings of surveillance in the precrisis period reflected a shortage of analytical resources. Because of Korea's record of stability, relatively few staff members were following the country regularly during the time preceding the crisis.[13] Korea was usually covered either by the division that also was responsible for following Japan, or by the one that covered China; in both cases, the bulk of analytical resources was devoted to the larger country. There was little in the way of structural analysis of Korea's financial and corporate sectors available from the World Bank, because Korea had "graduated" from Bank lending programs in the early 1990s.[14] Moreover, by the fall of 1997, APD was stretched thin by the crisis spreading throughout the region, so senior staff had to be transferred from other country assignments to lead the Article IV consultation mission.

However, several of the lapses identified above represented not so much a lack of familiarity with or knowledge of Korea, as a failure to draw the appropriate parallels with experiences in other economies. This was the case both for contemporaneous developments—contrasts with Taiwan Province of China, Singapore, Malaysia, and Thailand have already been noted—and for prior experience, as with bank reform and restructuring in the Nordic countries.

Surveillance also suffered from the poor quality of the available data, particularly on the vital topics of NPLs, external debt, and usable reserves. The lack of good data appears in part to have reflected the data provision policies chosen by the authorities. Until November 1997, there was little internal discussion of the need to press the authorities to improve the quality of statistics on their debt and reserves.[15] At the same time, certain data sources appear to have been overlooked. For example, the consolidated and locational statistics compiled by BIS pointed to sharp increases in interbank debt, and particularly short-term debt, in the years immediately preceding the crisis.[16] As noted above, another key reason for the poor quality of the data was the tendency for both the staff and the authorities to think about capital flows only in terms of a "residence" concept rather than "nationality." As a result, they relied on prevailing statistical definitions that did not include the obligations of Korean banks' overseas branches among the liabilities of the Korean financial sector, although nationality-based data were available, albeit in limited form, from BIS and national sources.[17]

Program Design

This section reviews the major elements of program design in the IMF-supported program for Korea, as agreed at the beginning of December 1997 and modified over the subsequent months (Box A2.2), including monetary and exchange rate policy, fiscal policy, financial restructuring, and nonfinancial structural reforms.

Monetary and Exchange Rate Policy

Evolution of the IMF's policy advice

The monetary policy section of the briefing paper prepared for the November 1997 negotiating mission was the outcome of considerable internal debate. In commenting on an earlier draft of this brief, RES suggested that monetary policy should guide the exchange rate to a range close to its then prevailing level, while MAE suggested that it would not be possible to determine an appropriate exchange rate

[13]The 10 Article IV consultation missions from 1988 to 1997 were headed by six different individuals, though the same person headed the consultation missions in 1995, 1996, and 1997. Only one other staff member participated in more than 2 of the 10 consultation missions.

[14]On the other hand, with Korea's accession in December 1996, the OECD was developing considerable expertise on Korea. In view of this, the IMF later invited the OECD to provide inputs into the structural conditionality of the December 1997 program in the area of corporate governance.

[15]The staff report for the 1995 Article IV consultation remarked that "Korea's economic statistics [were] of high quality and [were] reported to the IMF on a timely basis."

[16]In December 1997, data were available from the BIS consolidated banking statistics through the end of 1996. This put Korea's liabilities to reporting banks at US$100 billion, of which US$67.5 billion was short-term (by resident maturity). This represented an increase in bank debt of US$22.5 billion over the previous year, including an increase of about US$13 billion in short-term debt. More up-to-date data were available from the "locational" series, published in November 1997, with data covering up to end-June 1997. This suggested that borrowing from international banks had continued to grow in the first half of 1997.

[17]For example, some of this information was available from the U.K. and U.S. national supervisory data.

Box A2.2. The IMF-Supported Program in Korea

The policy actions undertaken by Korea in connection with the SBA were detailed in a "Memorandum on the Economic Program" attached to the "Letter of Intent," which was signed by the Minister of Finance and Economy and the BOK Governor, and in a letter on "Prior Actions," signed by the Minister of Finance and Economy alone. The Memorandum detailed the actions that the authorities intended to undertake and identified performance criteria and structural benchmarks that they were committed to achieve. In fact, there were only two explicit performance criteria in the initial program, namely, targets for NIR and for NDA, though there was extensive discussion of policies that would be pursued in other areas. The prior actions letter detailed measures that had been taken or would be taken in short order upon approval of the program by the Executive Board. These two documents specified actions that had been or would soon be taken in the following areas:

Monetary and exchange rate policy

1. Prior action

The overnight call rate, then roughly 12.7 percent, would be raised to 25 percent by December 5, 1997, and maintained there until the program's inflation objective had been achieved and the exchange market had stabilized.

2. Performance criteria

a. A floor was specified for NIR and a ceiling for NDA.

b. New foreign exchange advances from the BOK to banks were to carry a penalty rate of 400 basis points over LIBOR, for at least the next four weeks.

3. Other measures

a. The growth rate of M3 would be reduced, then kept in line with an inflation objective in 1998.

b. The liquidity injection that had taken place in recent weeks in support of the banks would be reversed.

c. Exchange rate intervention would be limited to smoothing operations.

Fiscal policy

1. Prior actions

Transportation and excise taxes were to be increased immediately.

2. Other measures

a. The public sector budget in 1998 would be close to balance. To counteract the carrying costs of the financial sector cleanup and the impact of slower growth, this required contractionary measures of 1.5 percent of GDP.

b. In addition to the tax increases already mentioned, measures would be formulated on both the revenue and the expenditure sides.

Financial sector restructuring

1. Prior actions

a. Nine troubled merchant banks were closed on December 2, 1997, with depositors fully protected.

b. The remaining merchant banks would be required to develop plans to meet the capital adequacy standards that had been established by the Basel Committee on Banking Supervision (BCBS) by June 1999, subject to the approval of the MOFE.

c. Two troubled commercial banks (widely understood, and later revealed, to be Korea First Bank and Seoul Bank) would be required to develop plans to achieve the BCBS capital adequacy standards by mid-1998, subject to the approval of the BOK. Until then, they would be "subject to inten-

target at that time. MAE argued that there was a risk that targeting the exchange rate would prove unsustainable, because the high domestic interest rates needed to defend it would exacerbate the bad loan problem over time.

The brief that emerged represented a compromise. It envisaged "a tightening of monetary policy directed at containing the impact of recent won weakness on inflation and preventing a significant further weakening of the currency." A target of 8.5 percent growth in M3 was set for 1998, significantly lower than the 15.8 percent M3 growth projected for 1997. The proposed program also involved "an (implicit) [parentheses in original] target range for the won's nominal effective exchange rate with the understanding that monetary policy [would] be tightened if the rate [fell] to the bottom of this range," though the exact range was not specified.

By the time the program was finalized in early December 1997, the role envisaged for monetary policy had shifted. A nominal effective exchange rate target was no longer contemplated. Instead, the objectives of monetary policy were defined to be to contain inflation to 5 percent and to limit downsive supervision," which might include mergers or asset sales.

d. Other commercial banks would be required to make provision for loan losses by March 1998, and to develop plans by mid-1998 to achieve the BCBS capital adequacy standards by end-1999, subject to the approval of the BOK.

e. Losses were to be taken first by shareholders, then by nonguaranteed creditors.

f. The ceilings on share ownership by foreigners were to be increased.

g. Restrictions on hostile takeovers, friendly takeovers of financial institutions by foreign institutions, foreign ownership of merchant banks, and the ability of foreign institutions to set up Korean branches and subsidiaries were to be removed.

h. The government would develop an action plan for bringing supervision and regulation up to international standards.

2. Other measures

a. The Bank of Korea was to be made independent, with a mandate for price stability.

b. Supervision of commercial banks, merchant banks, securities firms, and insurance firms would be consolidated in an autonomous agency.

c. A consolidated deposit insurance corporation, financed by the issuance of government-guaranteed bonds, would be set up.

d. Foreign access to the Korean money and bond markets would be liberalized.

e. A timetable would be established by end-February 1998 to allow overseas borrowing by corporations.

f. There would be no government intervention in banks' management and lending decisions, except as required by prudential regulations. Where there was policy-oriented lending, the interest subsidy would be included in the public sector budget.

Corporate sector, trade, labor market, and information provision

1. Other measures

a. Corporations would regularly prepare consolidated, audited financial statements. Accounting and disclosure standards were to be brought up to internationally accepted levels, including independent external audits.

b. The authorities would set up a timetable for eliminating trade-related subsidies, restrictive import licensing practices, and the import diversification program.

c. Korean legislation on takeovers would be harmonized with that of other countries.

d. The existing bankruptcy code would be allowed to operate without official interference, with no bailouts of individual companies.

e. With the assistance of multilateral lending organizations, a plan would be formulated to reduce corporate leverage, develop traded capital markets, and change the system of cross-guarantees within conglomerates.

f. Labor-market flexibility would be improved, including strengthening of the employment insurance system.

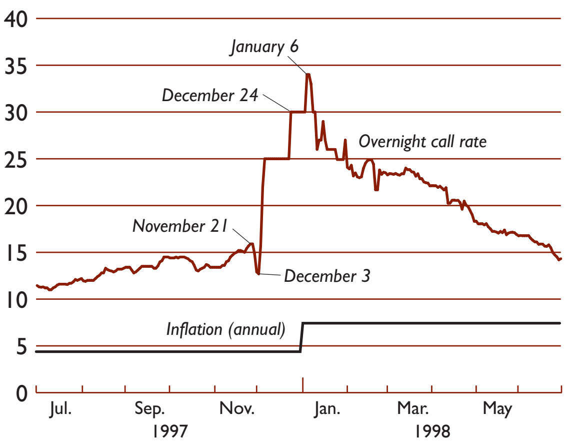
g. Provision of data, on such matters as foreign exchange reserves, nonperforming loans, capital adequacy, ownership of financial institutions, external debt, and local government finances, would be improved.

The above list formed the basis for the policies that Korea would undertake over the next two years. A modified program was agreed on December 24, 1997, along with a faster disbursement of IMF resources. The revised program specified additional measures that would be undertaken (in most cases, this amounted to an accelerated timetable of agreed measures). Subsequent program reviews would convert some of the items listed into explicit structural conditions, and add new reform measures in the same spirit as those listed.

ward pressure on the won. There would be an immediate increase in interest rates to demonstrate the government's resolve in the face of the crisis and to calm the markets. Interest rates would later be brought down somewhat, but would remain high enough to limit downward pressure on the won and to ensure that inflation would be no higher than 5 percent in 1998. A target for broad money growth was set for the fourth quarter of 1997 but, unusually for IMF-supported programs at that time, monetary policy for the following year was to be guided by an inflation target. An inflation target, however, was not made part of formal conditionality in the program.

Two principal developments appear to have contributed to this change in focus. One was the sharp depreciation in the won, from W 987 per U.S. dollar on November 17 to W 1,249 on December 4. This made it virtually impossible to determine an exchange rate range that could be relied on as an anchor for policy. A second factor was that the BOK continued to provide won liquidity to troubled banks at favorable interest rates, even while the program negotiations were under way. As a result, the call

Figure A2.4. Korea: Overnight Call Money Rate and Inflation
(In percent)



Source: Datastream.

money rate declined to 12.7 percent on December 2 from 15.0 percent on November 17 (Figure A2.4). The staff felt that strong action would now be necessary, in part to stem the drop in the exchange rate, but primarily to reestablish monetary control and to demonstrate the authorities' resolve to regain exchange rate stability. Once the foreign exchange market had been stabilized, policy would be loosened, but would remain geared toward containing any inflationary effects of the weaker won and counteracting further depreciation.

Monetary policy, along with the closure of the merchant banks (discussed below), was one of the principal issues on which the authorities and the IMF disagreed most strongly during the first phase of the negotiations. The authorities feared that excessively high interest rates would cause an increase in bankruptcies in the highly leveraged corporate sector. Only with the intervention of the Managing Director in the final stages of the negotiations did the Korean authorities agree to raise interest rates to the levels thought necessary by the IMF.

The temporary nature of the rate increase was underscored in the letter on prior actions, signed by the Minister of Finance and Economy, that accompanied the request for an SBA. This letter specified that the call rate would be raised to 25 percent, and "maintained at that level until the time it [would] be judged—in consultation with the IMF staff—that it [could] be progressively brought down to a range of 18–20 percent."

The call rate was duly raised to 25 percent in early December 1997, but confidence was not restored. Instead, the won remained extremely volatile and fell to record lows (Figure A2.1). The IMF urged a still tighter policy, but this could not be implemented immediately because of a 35-year-old usury law that set a ceiling of 25 percent on the call money rate. A law increasing the usury ceiling was passed on December 14, after which this rate was promptly raised to 30 percent. Further increases followed and the call rate peaked at 34 percent in early January 1998. However, by mid-December, it was clear to the authorities and the IMF (particularly the mission team in Korea) that this situation was not sustainable, given the impact it had begun to have on corporate balance sheets and given continued capital outflows. This spurred the search for another solution, namely the strengthened program and coordinated debt rollover announced on December 24.

The staff continued to endorse the maintenance of relatively high real interest rates in the early months of 1998, believing that the exchange rate had not yet fully stabilized and that there was still a risk of accelerating inflation. The call rate was maintained in the 20–25 percent range for the first three months of the year, and then was lowered gradually in the spring and summer. There was a strong concern that premature loosening of monetary policy would lead to a loss of monetary control and renewed depreciation of the exchange rate, as had happened in Indonesia.[18] The staff acknowledged that the tight monetary policy (along with higher capital adequacy requirements) contributed to a credit squeeze, but contended that the best way to ameliorate the squeeze would be to implement the accelerated timetable for financial sector restructuring and to provide official liquidity to sound institutions against appropriate collateral. In the Executive Board reviews of the Korean program, comments tended to favor maintaining a tight monetary policy in support of the exchange rate. However, in the February discussion, one chair warned about "overkill" and suggested a more active willingness to ease policy once the exchange rate had stabilized.

Real interest rates during the first half of 1998 were very high by the standards of most industrial countries facing a recession, though not unusually high for emerging economies in crisis (see Table 4.2 in the main report). Using the actual 1998 CPI inflation rate of 7.5 percent, the overnight call money rate reached a high of 26.5 percent in real terms in early January, before falling to around 15 percent in February, 10 percent in early May, and single digits for the

[18]RES was opposed even to the gradual lowering of rates that occurred in early 1998, and continued to urge that policy be oriented toward a target range for the exchange rate.

Box A2.3. Recent Studies on the Impact of High Interest Rate Policy in Korea

In the case of Korea, two recent empirical papers have yielded the result that higher interest rates (relative to their U.S. equivalents) had an appreciating effect on the won–U.S. dollar exchange rate during the 1997–98 crisis. Cho and West (2000) used daily data for the period December 17, 1997–June 30, 1999 to estimate regression and vector-autoregression (VAR) models and found that, with appropriate control for risk, liquidity, and some external factors, a higher call rate was associated with exchange rate appreciation. Likewise, Chung and Kim (2002) applied a nonlinear econometric methodology (in order to take account of both levels and changes in interest rates) to daily data for the period January 4, 1995–September 30, 1998 and found that, in a bivariate VAR framework, a higher certificate of deposit (CD) rate led to an initial depreciation of the exchange rate for a few days, followed by an appreciation sustained over a few months, even during the crisis period (December 1, 1997–March 31, 1998) when the level of interest rates was high. It should be noted, however, that (1) a substantial portion of the sharp currency depreciation of the crisis period had already occurred by the beginning of the sample period in the Cho-West (2000) study, with a trough on December 24, and (2) the parameter estimates of the Chung-Kim (2002) study come from a sample that include a relatively long noncrisis period. Given these qualifications, the studies do not seem to present a strong case against the undeniable fact that the Korean won depreciated from W 1,163 to W 1,964 per U.S. dollar in December 1997 while the call rate was raised from 13 percent to 30 percent. More likely, these studies provide a confirmation of the conjecture that tight monetary policy maintained in the aftermath of the sharp depreciation helped to ensure that the subsequent real appreciation took the form of nominal appreciation rather than higher inflation.

rest of the year.[19] This represented a return to precrisis levels, which averaged about 8 percent in 1996–97.

The three-year corporate bond yield was 200–500 basis points less than the call rate from January through May, after which the call money rate fell substantially below the corporate bond yield. This implies, after appropriate allowance is made for the corporate credit risk premium, that the latent domestic currency term structure moved from being inverted to being upward-sloping either in May or soon afterward, offering another indicator that the monetary stance loosened around this time.

Assessment

As in other crisis countries, monetary policy in Korea reflected a trade-off between, on the one hand, the need to reestablish external credibility, control inflation, and stabilize the exchange rate, and, on the other, the need to support domestic demand at a time of financial sector restructuring. As discussed in the main report, most economic policymakers at the time accepted the existence of a link between higher interest rates and a stronger exchange rate. While this view has been challenged since the Asian crisis, the large theoretical and empirical literature that has emerged has yet to settle the matter (Box A2.3). The literature, however, does suggest that the relevant issues and relationships differ, depending on whether one is defending an exchange rate in the midst of a crisis, or attempting to manage the situation in the aftermath of an episode where the exchange rate has overshot its equilibrium level. In the latter case, the objective is to ensure that the required real appreciation occurs not through domestic price increases but through nominal appreciation (Goldfajn and Gupta, 1999).

For Korea, this suggests that there are in fact two distinct issues to consider:

- Were high interest rates justified as a means to stabilize the won at the outset of the crisis in December 1997?
- Were high interest rates justified in the early months of 1998, after the most critical stage of the crisis had passed but the exchange rate remained substantially weaker than its earlier levels?

It is difficult to answer these questions conclusively, given the lack of consensus in the academic and policy communities. However, we can look at which of

[19]Independent inflation forecasts for 1998 were around 11 percent in the early months of that year, suggesting that real interest rates measured using expected inflation were only a few percentage points below the levels cited here. See Bloomberg News, "Korea's Consumer Prices Fall 0.2 percent in March," March 31, 1998. In terms of realized *monthly* inflation rates, the real call rate was briefly negative in December because of the one-time jump in prices resulting from the depreciation.

the identified effects were operating in Korea at the time, and at whether the IMF took sufficient account of the relevant issues in formulating its policy advice to the Korean authorities.

Stabilizing the exchange rate

After the Korean authorities floated the currency, the immediate objectives of monetary policy were to arrest the sharp decline of the exchange rate and stabilize the foreign exchange market. However, the closed nature of Korean capital markets limited the channels through which monetary policy could achieve those goals. Higher interest rates could not have stabilized the won by increasing the cost of speculation against the currency. While the offshore market, mentioned earlier, was a potential source of speculative pressure, it was by no means the primary reason for the won's weakness. Korea faced increased demand for liquidation of foreign currency claims rather than a conventional speculative currency attack. There was little risk of domestic capital flight, because of limits on the ability of residents to take funds out of the country.[20] Though foreign currency deposits held by residents rose 267 percent in U.S. dollar terms from end-June to end-November 1997, even at the end of November they totaled only US$5.3 billion, so this trend had little impact.[21] Conversely, foreign entities did not have many vehicles through which to invest in won-denominated assets. In practical terms, neither the long-term bond market nor the short-term money market was open to foreigners. It was possible to lend to Korean entities—but these were precisely the loans that foreign financial institutions were rushing to liquidate. Foreigners could also invest in the stock market, but higher interest rates would be likely to discourage foreign share purchases in conditions of panic, by lowering realized returns and thus depressing market sentiment.

In the view of IMF staff at the time, the main channel through which the interest rate defense would operate was that higher interest rates would raise the opportunity cost for Korean banks of not having their foreign currency loans rolled over. A Korean bank with an outstanding short-term dollar-denominated loan about to come due could either promise to pay its foreign lender a higher dollar interest rate, inducing the latter to roll over the loan, or it could borrow won on the domestic market—in effect, a loan from the central bank, given the guarantee mechanisms in place—and use the won to buy dollars in order to pay off the loan. The second of these two options, if pursued by enough institutions, would cause downward pressure on the won. A higher won interest rate might induce more Korean banks, at the margin, to choose the former course rather than the latter. In this sense, the high won interest rates were a complement to the policy of having the central bank charge a penalty rate for foreign exchange advances; both policies were intended to induce Korean banks to seek rollovers rather than drawing on central bank liquidity.

Given the nature of the Korean crisis, however, very high interest rates were necessary for this channel to operate effectively. For many creditor banks, the rollover decision depended more on their assessment of credit risk—including the suddenly heightened risk, not merely of their Korean positions, but of East Asian exposure in general—than on the interest rate their Korean counterparties offered them. It is not clear if *any* level of interest rates offered by Korean borrowers would have been high enough to induce such banks to roll over their loans. This was borne out by events, since capital outflows only stopped when the high interest rates were complemented by the coordinated rollover agreement.

Thus, a tighter monetary policy may have been necessary to slow the leakage of foreign exchange and to prevent a full-scale collapse of the exchange rate, but it was not sufficient as a means to reverse capital outflows and resolve the crisis. If the staff had come into the crisis with a better understanding of the nature of Korean capital markets, then it is possible that less emphasis would have been placed on monetary policy in the initial formulation of the program, and more on finding an alternative solution to the worsening liquidity crisis.

The recovery and the transition to lower rates

According to the objectives set out in the IMF-supported program, monetary policy during the first half of 1998 had two goals: to stabilize the foreign exchange market and to counteract the inflationary effects of the depreciation. As regards the first objective, one can argue, with the benefit of hindsight, that monetary policy was guided by an excess of caution rather than deliberate overkill. The won strengthened from W 1,964 to the U.S. dollar on December 24, 1997 to around W 1,400 at the end of March 1998, and remained at or near that level for the next three months (see Figure A2.1). The volatility of the exchange rate declined steadily in the first half of 1998 (Figure A2.5). The volatility of the won–U.S. dollar rate (measured as the standard devi-

[20]However, residents could still circumvent these restrictions by accelerating or postponing cross-border payments.

[21]Residents' foreign currency deposits fell 31 percent in U.S. dollar terms in December 1997. This suggests that local residents did not try to flee the currency, but instead participated in the global run on the dollar holdings of the Korean banking system. Foreign currency deposits were stable as a fraction of total deposits during December, as these withdrawals were balanced by the won's depreciation (which increased the value of dollar deposits relative to won deposits).

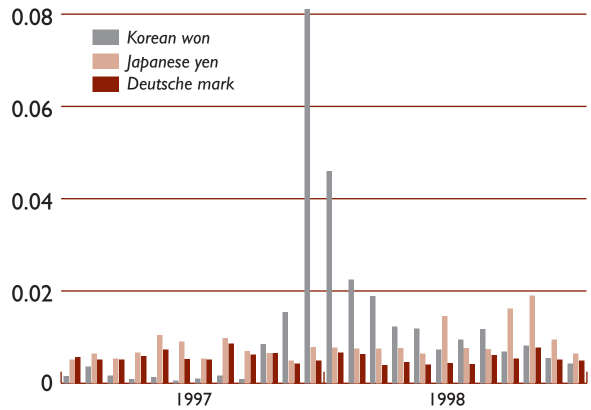
ation of daily logarithmic changes) fell to 0.7 percent in June 1998 from 8.1 percent in December 1997. For comparison, the monthly volatility levels of the Japanese yen–U.S. dollar and deutsche mark–U.S. dollar exchange rates during this time ranged between 0.4 percent and 0.8 percent.

Did high real interest rates contribute to this stabilization? It is difficult to answer this question without being able to test the alternative hypothesis. Certainly it was important to maintain high real interest rates in order to prevent a flight from won-denominated assets by Korean institutions and individuals, though, as noted above, there were few channels through which this could occur. But the government's prompt actions in starting to address the problems in the corporate and financial sectors are likely to have done more to rebuild the market's confidence in the Korean economy.

The second principal motivation for the level of interest rates, namely the need for a tight monetary policy to contain inflation, was open to question. With unemployment at 7 percent, the gap between actual and potential GDP was probably quite large. The experience of such countries as the Philippines and Thailand in the late 1990s and Finland and Sweden in the early 1990s shows that there is no reason to assume a large sudden depreciation will necessarily lead to a correspondingly large acceleration of inflation. Academic work produced after the crisis has investigated the reasons why "pass-through" tends to be weaker than expected in such situations. Burstein and others (2001) cite two countervailing effects: first, consumers tend to substitute domestic for foreign goods; and second, the component of the final price of a "tradable" good that is sensitive to the exchange rate is often quite small relative to domestic cost components such as transportation and distribution. Of course, these experiences, and the lessons that have been drawn from them, were not fully available or understood at the time of the Korean crisis.

High interest rates undoubtedly imposed costs on the domestic economy, but these are difficult to quantify. Given the short-term structure of corporate finance, the transmission of high interest rates to the real economy was rapid. At the time of the crisis, some 35 percent of domestic corporate debt had an average maturity of less than three months, and about 70 percent had a maturity less than one year. One reason for this was the extensive use of three-month promissory notes as a means of payment among enterprises, especially among small and medium-sized ones (Baliño and Ubide, 1999). In the case of Korea, given the high leverage and export orientation of the corporate sector, the adverse balance sheet consequences of a lower exchange rate may well have been much smaller than the cost of higher interest rates (Krueger and Yoo, 2002).

Figure A2.5. Daily Volatility of U.S. Dollar Exchange Rates Against Korean Won, Japanese Yen, and Deutsche Mark[1]



Source: Datastream.
[1]Measured as standard deviations of daily logarithmic changes.

As the crisis developed, the IMF staff became more aware of these vulnerabilities and often mentioned the impact of high interest rates on the corporate sector in program reviews and communications with management. However, the collapse in business and consumer confidence and the sudden, sharp contraction in financial intermediation, which was due to the need to clean up balance sheets and rebuild capital levels, probably played a more important role in creating the recession than did the level of interest rates per se. As the experience of Japan has shown, banks that are burdened with weak balance sheets are usually reluctant to finance business investment, even when their cost of funds is very low. An alternative financing channel, the corporate bond market, began to grow rapidly during this period, but it took time for the necessary market infrastructure to be developed (Oh and Rhee, 2002).[22]

While the move toward a gradual reduction in policy rates in the aftermath of the crisis was justified, the rates themselves remained above levels that would have been more appropriate to helping the country get out of recession. In this context, the lack of a clearly defined and well-announced framework to guide monetary policy was not helpful.[23] The IMF was aware that there was scope for further eas-

[22]Later events would show that the growth of domestic corporate bond issuance had been partially supported by lax supervision of the investment trust companies that were a primary vehicle for retail investors (see section on "Financial sector reform," below).

[23]The program contained a broad inflation target, but no mechanism was specified to achieve that objective.

ing and understood the effect the high rates were having on the corporate sector but, for fear of the crisis returning, was reluctant to allow rates to fall more quickly. In retrospect, an earlier easing of rates would have been justified. However, it must be recognized that the IMF was faced with making a very difficult judgment, based on incomplete information, as to whether an earlier easing of rates would have triggered renewed exchange rate pressures, particularly given the unsettled currency markets in the East Asian region. Moreover, the period of unusually high real rates was only a few months. Given other weaknesses of the economy, particularly the breakdown in financial intermediation, it is doubtful that an earlier loosening of monetary policy would, by itself, have prevented the recession, although hindsight now suggests that some earlier loosening would have been warranted.

Fiscal policy

Background

Korea's public sector budget was essentially in balance at the onset of the crisis. The authorities projected a deficit of 0.2 percent of GDP in 1997 and a surplus of 0.25 percent in 1998, after surpluses of 0.3 percent in the two previous years. Public debt was only 6 percent of GDP.

Despite the very healthy position of public finances at the start of the crisis, the staff's initial approach was to favor a tight fiscal policy. In a draft briefing paper prepared before the program mission in late November 1997, APD proposed fiscal measures that would not only pay for the carrying cost of debt issued for financial sector restructuring, but also result in a surplus of 1.5 percent of GDP in 1998. The tighter fiscal policy was meant to secure the needed current account adjustment without increasing the burden on monetary policy and the exchange rate. Some review department comments urged a still greater fiscal adjustment, in order to signal the government's resolve and to be prepared if restructuring costs were larger than expected. It was pointed out that, given the experience of Thailand and Indonesia, the authorities could not always be trusted to maintain tight monetary policies under conditions of severe financial sector weakness, so that a greater burden of adjustment should be placed on fiscal policy.[24] However, this latter approach was rejected by IMF management in recognition of the fact that the precrisis fiscal situation was largely in balance and the need to avoid fiscal "overkill." As a result of management's intervention, the proposed surplus for 1998 in the premission brief was reduced to 1 percent from 1.5 percent of GDP.

Fiscal policy was not a major area of disagreement between the IMF and the authorities in negotiating the IMF-supported program. The eventual program envisaged a surplus of about 0.15 percent of GDP in 1998, which was still smaller than in the premission briefing paper. This figure incorporated the surplus of 0.25 percent of GDP projected before the crisis; a 0.8 percent shortfall because of slower growth; 0.8 percent in carrying costs for the financial sector cleanup, based on the assumption that the cleanup would eventually cost a total of 5.5 percent of GDP;[25] and offsetting measures of 1.5 percent. As a demonstration of the authorities' resolve to undertake these offsetting measures, an increase in the transportation tax and an excise tax were among the "prior actions." This fiscal stance was broadly supported by the Executive Board when the program was discussed, with only one Executive Director expressing concerns and suggesting a more expansionary fiscal stance.

Even the 0.15 percent projected surplus could be said to incorporate an implicit assumption that Korea would run a deficit under the policies stated in the program document. This is because the staff believed that the program's growth assumption of 2.5 percent for 1998, as agreed with the authorities, was overstated. According to staff members interviewed by the evaluation team, the staff expected growth in 1998 to be zero or even negative. It nevertheless agreed to include a positive growth forecast at the urging of the Korean authorities, who wanted this for political reasons.[26]

In the early months of 1998, as growth projections worsened, the program assumed an ever greater deficit. The staff recommended that the authorities "let automatic stabilizers work," in other words, that they take no action to offset the projected deficits. Internal documents show that IMF management was apparently more keen than the staff to allow for flexibility in fiscal policy. An early draft of the staff report accompanying Korea's late-December request for accelerated disbursements stated that fiscal policy would "need to remain tight." This conformed to

[24]While there was no explicit discussion of fiscal sustainability, it was implicitly recognized that, given Korea's low precrisis level of sovereign debt, sustainability was not an issue, provided that the crisis was resolved quickly.

[25]The net fiscal costs of bank restructuring, now estimated at 23 percent of GDP, have turned out to be still greater than had been feared in 1997.

[26]However, if there was staff pessimism about near-term growth prospects, there was no evidence of this even in internal program documents before the late spring of 1998. The confidential premission brief prepared on November 21, 1997, also projected 2.5 percent growth for 1998. The staff report accompanying the second biweekly program review, prepared on January 8, 1998, stated that, "[the] downturn in growth [was] likely to be sharper than previously expected, particularly during the first quarter." Yet, that review included a positive growth forecast for 1998, as did every subsequent program review until that of May 19, 1998.

the authorities' commitment, in the December 24 LOI, that "the initial fiscal adjustment of the program [would] be maintained despite higher costs to the government associated with the larger depreciation of the won and with financial sector restructuring." However, at the urging of management, the language in the staff report (but not in the LOI) was replaced by a statement that "the staff's preliminary assessment [was] that . . . automatic stabilizers should be allowed to operate."

The Korean authorities were reluctant to do so, in accordance with their traditional inclination toward fiscal conservatism. Government consumption expenditures fell by 0.4 percent in real terms in 1998. Nevertheless, because tax revenues fell even further than did government spending, Korea ended up running a budget deficit of 4.3 percent of GDP in 1998, or 1.5 percent in cyclically adjusted terms. The public sector deficit was further augmented by the activities of off-balance-sheet quasi-public entities such as the KDB (Cho and Rhee, 1999).

Assessment

In terms of the role of fiscal policy, the Korean situation in November 1997 differed from the typical situation in which IMF assistance is sought. The level of outstanding public debt was very low. The government faced potentially very large contingent liabilities through its de facto guarantee of foreign currency bank debt.[27] The bailout of Kia raised suspicions that the government's de facto domestic-currency contingent liabilities were also large. However, domestic and foreign investors did not doubt either the capacity of the public sector to maintain control of its fiscal processes, or the political commitment of the authorities to maintain a sustainable level of sovereign debt. When international credit-rating agencies lowered Korea's debt ratings sharply at the end of 1997, they were careful to assert that this reflected the country's dire liquidity situation, rather than the underlying strength of its economy or its overall debt position.

Under these conditions, there was scope for a "debt for debt" swap, in which the government would draw on its extensive spare domestic and international borrowing capacity to offer its obligations in exchange for those of the country's troubled financial sector. Indeed, this is what eventually happened. Leaving aside the admittedly important moral-hazard and burden-sharing issues of such an approach, the question for fiscal policy then comes down to whether the carrying cost of the government debt issued in this process should have been paid for through current receipts, as the IMF initially proposed, or through issuing additional debt. A good argument could be made that there was scope for the carrying costs, too, to be financed temporarily by public borrowing, since Korea's past record was sound enough to convince the market that such borrowing was unlikely to spiral out of control.

Another possible role for fiscal policy would have been to counteract the contractionary effects of the restructuring of the financial sector. In this sense, the emphasis on "reducing the burden on monetary policy" was misplaced. The drive for the banks to write off bad loans and to rebuild their capital adequacy as quickly as possible was exerting a deflationary pull far stronger than monetary policy could have provided.

The initial recommendation for a relatively tight fiscal policy was, in part, the result of an excessively optimistic growth projection and in part a reflection of the IMF's traditional preference for fiscal tightening in crisis situations. However, within a month or two from the outbreak of the crisis, once it became clear that output would be well below program targets, the IMF showed flexibility in recognizing the need for a looser fiscal policy and transmitting this advice to the Korean authorities. The latter, however, were reluctant to act upon it.

The idea that a country engaged in financial sector reform should pursue a loose fiscal policy in order to support aggregate demand was not unknown at the IMF; the 1998 Article IV consultation report for Japan, produced a few months after the Korean crisis, urged just such a policy. Of course, Korea's ability to borrow during the crisis was limited by the need to rebuild the confidence of foreign investors, while Japan could finance its deficits at home, and the role of fiscal policy in Japan was itself a subject of considerable debate. There was also a limit to how aggressively the IMF could have pushed for a looser fiscal policy, given the authorities' preference for fiscal conservatism and the damage to credibility that might have come from any public criticism. Nevertheless, it is striking that such an approach was not considered more seriously at an earlier stage in the crisis.

Financial sector reform

Background

In the years preceding the crisis, Korean policymakers pursued a slow but deliberate policy of financial sector reform. The authorities announced a blueprint for financial liberalization in 1993. This led to

[27]Ambiguity about the amount of liabilities covered by this guarantee was a further source of difficulty. At end-September 1997, short-term external debt of domestic commercial banks resident in Korea was roughly US$24 billion, but a broader definition that included medium- and long-term debt, borrowing by foreign branches of Korean banks, and borrowing by nonbank financial institutions would raise this figure to roughly US$106 billion.

deregulating interest rates, liberalizing the issuance of corporate bonds and commercial paper, and sharply reducing subsidized "policy lending" through state-owned institutions.

However, progress on many issues in 1997 remained incomplete, partly because of conflicts between different interest groups in the public and private sectors, and partly because of a reluctance to take bold policy measures in the lead-up to the presidential elections in December. Many observers viewed apparent reform initiatives, such as the establishment of a Presidential Commission on Financial Reform, as attempts to deflect criticism by postponing concrete action until after the elections. IMF staff members involved in surveillance before the crisis told the evaluation team that, despite the many reform initiatives, they were never sure how much genuine reform had actually taken place in Korea. Announced reforms often did not seem to have much practical effect on the behavior of financial institutions. Formal controls on transactions or activities were sometimes replaced by less transparent controls, or by informal channels of influence.

After the crisis hit, the Presidential Commission's recommendations suddenly assumed much greater relevance. The Commission had recognized that reform was needed, not just in the content of financial sector regulation, but also in the organizational structure of the bureaucracy responsible for regulation. For example, while commercial banks were supervised by the Office of Bank Supervision at the BOK, responsibility for supervising the merchant banks lay with the MOFE. This contributed to the uneven quality of financial sector supervision across different types of institutions.

There were three important differences between the Commission's recommendations and the restructuring program that was ultimately followed. First, the Commission did not specify the sequencing of the reforms that it recommended. Second, the Commission did not offer recommendations on the resolution of the NPL problem, partly because it was charged with offering a "big picture" vision of reform, but also because its members, like most outside observers, were not aware of the depth of the problem. Third, while it recommended the establishment of a consolidated supervisor, the Commission did not fully address issues relating to the bureaucratic structure of supervision, with the result that political infighting stalled the reform process at a crucial time.

The structural program for the financial sector had two distinct goals: to restore the health of the financial sector through the disposal of bad loans and closing or rehabilitating insolvent institutions; and to institute reforms that would improve the sector's efficiency and stability and enable it to contribute to Korea's growth in the longer term. Each of these aspects of the program are considered separately below, although the measures taken in each area were closely related.

Rehabilitating the financial system

With regard to cleaning up bank balance sheets, the strategy followed was similar (though not in all respects identical) to that pursued by other countries facing banking crises in the middle and late 1990s. The key elements were the prompt closure of the most troubled institutions; the extension of the deposit insurance system, funded by government-guaranteed bonds, to protect depositors and prevent bank runs; the utilization of an asset management company, also funded by government-guaranteed bonds, to buy and dispose of bad loans; and the requirement that weak but solvent institutions submit a restructuring and recapitalization plan for approval by supervisors or face closure.[28] A bridge bank was set up to buy and dispose of nonperforming assets held by the merchant banks. The asset-management and deposit insurance agencies had been set up prior to the crisis but were given expanded responsibilities.

During the negotiations, the authorities initially resisted some aspects of the IMF's strategy for cleaning up the financial sector, particularly the proposed closure of insolvent commercial and merchant banks. Such action was unprecedented in recent Korean history and the authorities were worried about the consequences for systemic stability. IMF staff members had the impression that this official reluctance to confront Korea's financial sector problems influenced other aspects of their interactions with the Korean authorities, for example, the provision of data on NPLs. After the intervention of the Managing Director in the final stage of the negotiations, the authorities agreed as part of the first program to close nine merchant banks and to restructure two large commercial banks. Subsequently, and particularly after the election, the authorities demonstrated a greater commitment to reform, closing additional banks and accepting a more rapid pace of liberalization. What emerged was a politically realistic, yet bold program of financial sector restructuring under a team of competent administrators.

Some of the authorities' actions did not meet the ambitious timetable set by the two December programs. Rather than being closed or sold off, Seoul Bank and Korea First Bank were nationalized. The government also became a major shareholder in several other commercial banks. Five years later, the

[28]Dookyung Kim (1999) and Baliño and Ubide (1999) review the early stages of this process.

privatization of these banks was still not complete.[29] Five smaller banks were closed in June 1998, the first such closures in Korea's recent history, but the rehabilitation plans for other undercapitalized banks were not finalized until September 1998. Legislation allowing supervisory authorities to write down the equity of failed banks without restriction was not passed until August 1998.

Despite these delays, the IMF and international investors remained confident about the Korean authorities' commitment to reform. This was because, even if measures were delayed or revised, the authorities were careful neither to backtrack from earlier pledges nor to take actions that ran counter to the spirit of reform. Between December 1997 and March 1998, 6 of the 26 commercial banks and 16 of the 30 merchant banks were closed or merged (Baliño and Ubide, 1999). As already mentioned, public funds totaling over 20 percent of GDP would eventually be committed to cleaning up the banking sector. This included equity injections, purchases of subordinated debt, purchases of NPLs, restitution to insured depositors, and funds for recapitalization.

Reforming the financial system

Many of the financial sector conditions in the IMF-supported program called for carrying out recommendations that had been made by the Presidential Commission during 1997. These included creating an independent, consolidated financial regulator; liberalizing the market for ownership rights in financial institutions; removing restrictions on the activities of financial institutions; modernizing monetary policy operations; and completing the deregulation of interest rates. According to interviews with Korean officials, the fact that the financial sector elements of the program were based upon a homegrown policy meant that the authorities were generally more willing to implement these measures than they would have been if they had been entirely imposed from outside. Essentially, what the IMF did in terms of financial sector restructuring was to tip the balance of power in Korea in favor of advancing the homegrown agenda. Starting in early 1998, the World Bank played an important role in advising the Korean authorities on reform policies and in outlining operational measures.

Following the first IMF agreement in December, the previously failed legislation passed the National Assembly, establishing the independence of the BOK and consolidating financial sector supervision in a single agency. However, the institutional arrangement of financial supervision continued to be a major area of dispute among the Korean authorities. The IMF-supported program, like the Presidential Commission, envisaged an independent regulator, but did not resolve the question of its relationship with the BOK and the MOFE. When the authorities began to draw up plans to implement this provision, the IMF at first took a neutral stance over the disposition of the new regulator, while insisting that it should remain independent of the MOFE. Ultimately, though, the IMF felt compelled to take a position in order to speed up the restructuring program. With the IMF's backing, the program ended up adopting the MOFE's vision of subordinating the Financial Supervisory Service (FSS) to a government agency, the FSC. This setup had some virtues. The new supervisory system was not formally part of the MOFE or the BOK, and the bureaucracy charged with managing and resolving the crisis was separate from the ongoing supervision function. However, the new framework had the disadvantage of allowing the MOFE to exercise influence over supervision through the participation of its officials in the FSC, a situation that was not entirely in keeping with the preferences of the IMF and World Bank.

As with the cleanup, the actual implementation of the promised reform measures was somewhat slower than had been specified in the IMF-supported program. New loan-classification standards and provisioning rules were put in place in June 1998, but the FSS, charged with carrying out the supervisory function, did not formally begin operations until January 1999. Rules imposing stronger risk management for banks' foreign exchange operations also did not become effective until 1999. Limits on large credit exposures, intended to insulate the banking system from the failure of a small number of large companies, as happened in 1997, have been phased in only gradually, in order not to disrupt credit flows to the companies concerned. At the same time, the cumulative progress of reform over the past five years has been impressive, and there have been no attempts to roll back previously implemented reforms.

Assessment

Over time, the financial sector restructuring program achieved its goals of facilitating the relatively prompt removal of bad loans from bank balance sheets and reducing the system's vulnerability to external shocks. The rapid restructuring of the banks and the short timetable for attaining high capital adequacy levels contributed to the severity of the eco-

[29]Average government ownership stakes in commercial banks, weighted by bank assets, rose from 17 percent at the end of 1996 to 58 percent at the end of 1998, then fell to 34 percent at the end of 2001. In January 2002, the authorities announced a plan to complete the privatization process over the next three to four years. A majority stake in Seoul Bank was sold to another Korean bank in September 2002, with the government planning to sell the remaining 31 percent by March 2004.

nomic slowdown in 1998.[30] Yet, a less rapid cleanup would not necessarily have resulted in a better outcome. Other liberalization measures, such as those that made it easier for corporations to issue bonds directly to investors, fostered the development of alternative financing channels. This strengthened the Korean economy by reducing the dependence of investment on the health of the banking sector.

There were, however, gaps in the new supervisory framework. A prominent example was the investment trust company (ITC) sector. The pressure on the banks to recapitalize and restructure led them to reduce their corporate lending and the returns they could offer to savers. This provided a window of opportunity to the ITCs, which channeled funds from small investors into the rapidly growing corporate bond market (Oh and Rhee, 2002). ITC accounts were intended to behave like mutual fund holdings, but in practice many ITCs offered guaranteed yields to investors. In 1999, when corporate bond prices fell following a large corporate bankruptcy, the ITCs could not meet the guarantees and the result was widespread panic selling. This episode, while causing losses to many investors and disruption to Korean capital markets, did not have a substantial impact on the country's overall investment and growth trends—a sign that the system had become more resilient, even though clearly more effort was needed in the area of improved supervision.

Nonfinancial structural reforms

Background

As was the case with the financial sector, there had been an ongoing debate within Korean society before the crisis on the optimum design of the corporate sector. Some reformers opposed the concentration of economic power in *chaebol*. Influenced by these ideas, the authorities, in a dramatic reversal of policy, had begun to allow large corporate bankruptcies (such as that of Hanbo) to take place even before the onset of the crisis. But others in Korea advocated the preservation of the *chaebol* system in light of its track record in facilitating rapid economic growth.

Comprehensive reforms in the nonfinancial corporate sector envisaged in the December 4, 1997 program included provisions on accounting standards, bankruptcy procedures, and governance mechanisms. In the late December program and subsequent reviews, provisions were added mandating the appointment of outside directors, liberalizing the market for corporate control, and enhancing labor market flexibility. In the World Bank's structural adjustment loans, more specific measures were identified, such as curtailing emergency loans, facilitating use of debt-equity conversions to address excessive leverage among *chaebol* affiliates, reducing cross-guarantees, providing additional encouragement for corporate mergers and acquisitions, debt restructuring and asset dispositions, and improving procedures and coordination for court-supervised insolvency (Mako, 2002; Joh, 2002). Thanks in part to these efforts, the debt-equity ratio of the manufacturing sector was gradually reduced from nearly 400 percent in 1997 to 211 percent in 2000 (Im, 2002).

A common criticism of the Korean program, echoed at the time in the Korean press, was that certain measures were included in the program at the insistence of major shareholder governments to serve their particular national interests. For example, the requirement that Korea eliminate its "import diversification" program was said to be a response to Japanese pressure,[31] while the measures to allow increased participation of foreign institutions in the Korean financial system were alleged to reflect pressure by the U.S. authorities on behalf of U.S.-based institutions.

The IMF's largest shareholder governments made no secret of their view that IMF assistance should be accompanied by strong reforms. The U.S. authorities, in particular, insisted that strong reform measures should be a condition for IMF support. However, internal IMF documents do not support the allegation that the specific policy measures mentioned were included solely because large IMF shareholder governments demanded them.[32] These governments may indeed have had an interest in these measures, but they were also on the agenda of policy reforms which had surfaced in the course of IMF surveillance and had been discussed by the staff with the authorities. For example, increased participation by foreign financial institutions in the Korean financial system had long been on the list of IMF recommendations made in the surveillance process and was among the measures recommended by the Article IV consultation mission two months earlier. It was in the briefing paper prepared by the staff on the eve of the negotiations, and is a policy recommended by the IMF for virtually all

[30] Domaç and Ferri (1998) find evidence that the contraction of bank credit and increase in bank lending spreads in Korea contributed to the fall in activity after the crisis. Hyun Kim (1999) finds that the decline in bank loans resulted from a contraction in supply (the willingness of banks to lend) rather than demand (that is, a fall in investment), though Ghosh and Ghosh (1999) find the opposite result. Borensztein and Lee (2000) find that there was a reallocation of credit from less efficient (including *chaebol*-connected) borrowers to more efficient ones.

[31] This program, which restricted imports from countries with which Korea had a large bilateral trade deficit, was designed to reduce certain categories of imports from Japan.

[32] According to former senior U.S. officials interviewed by the evaluation team, their only direct input was to introduce a penalty rate for the BOK's foreign exchange advances to Korean financial institutions.

emerging market economies. After the crisis started, takeovers and other asset purchases by foreign institutions were seen as a way to improve bank governance and to reduce the amount of public money needed to recapitalize the banking system. Similarly, the elimination of the import diversification program had been included in the recommendations of the earlier Article IV consultation mission and was incorporated in the prenegotiation brief. The staff saw this as a vital trade liberalization measure that would demonstrate the authorities' commitment to reform.

As with the financial reforms, the Korean authorities initially were eager to demonstrate their commitment to the program by moving forward rapidly on implementation. However, after the economy survived the initial phase of the crisis and began a quick recovery, the government reduced its efforts to pursue painful and costly restructuring. At the end of 2000, more than a quarter of manufacturing firms still had earnings that were below their interest costs. There were also signs of persistent official favoritism toward *chaebol.* For example, when a large conglomerate experienced financial difficulties in 2000, at a time when illiquidity in the corporate bond market made it difficult for companies to raise new capital, the Korean government mobilized such means as "fast-track underwriting" (in which the KDB refinanced maturing corporate bonds at a penalty interest rate) to prevent the company from going bankrupt.

Assessment

Some observers have argued that nonfinancial structural reform measures were not crucial to the resolution of the crisis, and have cited the fact that output recovery began well before many of the key reforms were implemented (Feldstein, 1998; Park, 2001). In particular, they argue that labor market and trade measures were a distraction from the core program requirements, although they may well have proven helpful to the long-term efficiency of the Korean economy.[33]

The effectiveness of some of the structural measures in the IMF-supported program can also be questioned. Some of them appear to have been rushed into implementation because of the short time horizon. Some staff members told the evaluation team that they had been under pressure to show quick results and had known that they would need to reduce intensive monitoring once the crisis had passed. This led to a focus on measurable benchmarks that could be achieved in the first six months or so of the program, at the expense of more lasting but less visible actions. For example, companies listed on the Korea Stock Exchange were required to appoint at least one outsider to their boards of directors. Some have questioned whether the newly appointed outside directors were truly independent of management or able to exert influence on corporate decisions (Joh, 2002).

Defenders of the IMF-supported program respond that, aside from the intrinsic merits of the policies followed, a demonstration of the authorities' commitment to reforms in both the financial and nonfinancial fields was needed to restore international confidence and promote rapid recovery. There were also some cases where nonfinancial structural measures were intended to facilitate a rapid recovery from the crisis, and thus formed a vital element of the IMF-supported response. In particular, smoother bankruptcy procedures and labor market reforms were designed to promote the reallocation of industrial assets and reduce the consequences of the reforms for employment.

It is difficult to evaluate these arguments because the objectives for many of these reforms were never fully spelled out. While the weak governance and high leverage of the Korean industrial sector certainly contributed to the crisis, the immediate need for action in these areas was not as clear as the need to address solvency issues in the financial sector.

To the extent that the reforms in the nonfinancial area were intended to facilitate other policies more directly linked to resolving the crisis, the argument for them would be much stronger. Even in this case, however, the IMF might have been better advised to confine its advice and conditionality to a narrower range of issues, and then to let the Korean authorities define their own agenda for implementing this more focused set of policy measures. This is particularly true of many of the trade and other external liberalization measures that were already mandated by agreements with the OECD and the World Trade Organization (WTO). The role of formulating and facilitating the needed reforms would then fall to institutions that are better placed to do so.

Program Financing and the Debt Rollover

This section reviews the process by which the financing package associated with the December 4, 1997 program was determined and whether the final

[33]There were 21 "structural performance criteria" specified in the course of the three-year IMF-supported program in Korea, that is, an average of seven a year (Chopra and others, 2002). The LOI attached to the December 4, 1997 program identified five "prior actions" to be taken by the authorities before the Executive Board approved the SBA. The total number of structural conditions was close to the median for SBAs during this time period, and somewhat less than that for longer-term IMF arrangements such as the Enhanced Structural Adjustment Facility and the Poverty Reduction and Growth Facility. See "Structural Conditionality in Fund-Supported Programs," SM/01/60, Supplement 2, February 2001.

Table A2.1. Korea: Balance of Payments and Financing Requirements
(In billions of U.S. dollars)

	Premission Brief		December 4 Stand-By Request		Actual	
	1997	1998	1997	1998	1997	1998
Current account (a) (– = outflow)	–13	–2	–14	–2	–8	40
Capital account (b) (– = outflow)	1	–5	–14	3	–28	–15
Of which:						
Portfolio investment	–2	–3	8	1	14	–1
Banks[1]	4	0	–16	3	–27	9
Change in reserves (c)[2] (– = increase)	12	–13	17	–23	21	–40
Financing gap (a + b + c)	0	–20[3]	–11	–22	–16	–14
Provided by official financing	0	20	11	22	16	10
Of which:						
Net IMF purchases	0	4	9	10	11	5
Market borrowing by government	0	0	0	0	0	4

Source: IMF database and documents.
[1]Adjusted to include the impact of foreign currency liquidity support by the BOK to overseas branches of Korean banks.
[2]Adjusted to exclude the impact of foreign currency liquidity support by the BOK to overseas branches of Korean banks.
[3]An additional financing gap of US$5 billion was projected for 1999.

size of the package was appropriate for the circumstances. Our overall assessment is that there was considerable ambiguity surrounding the publicly announced bilateral "second line of defense" and this damaged the program's credibility. It forced the staff to adopt unrealistic assumptions in formulating the December 4 program, which led to underfinancing. Korea's underlying liquidity shortfall was not resolved until the coordinated rollover agreement at the end of December.

The December 4 package

At the start of the negotiations with Korea in late November 1997, the staff estimated the country's financing gap during the years 1998 and 1999 at US$25 billion, of which US$20 billion was for the first year (Table A2.1, columns 1 and 2). Funds were needed, it was thought, to finance the current account deficit (estimated to be US$2 billion for 1998), portfolio outflows (another US$3 billion), and a US$13 billion increase in reserves. These figures were based on two crucial assumptions. First, Korea's short-term external debt, then estimated to total US$66 billion, was projected to be fully refinanced, though it was assumed that there would be little or no new short-term borrowing. Second, Korea's reserves of US$30 billion were thought to be enough to cover the country's obligations until the program funding was disbursed. No financing need was envisioned for 1997.

These assumptions had to be revised radically almost as soon as the IMF team arrived in Korea, because of a combination of new information and revised assumptions about the behavior of external creditors. It was discovered that Korea's usable reserves—that is, official reserves, minus the amount that had been deposited at overseas bank branches to cover short-term debt repayments—were around US$11 billion, and falling very fast. This pointed to the fact that the major drain on the capital account was likely to arise, not from a reversal of portfolio investment, but from bank debt repayments.

The debt, in turn, was far larger than initially thought, because it comprised obligations of overseas borrowing by Korean institutions, which were not included in residence-based debt data used by the IMF. The most important component of this additional debt was some US$22 billion in offshore borrowing by overseas branches of domestic banks. After correcting for double-counting and including offshore borrowing and the debt of Korean banks' foreign branches and subsidiaries, short-term external debt (bank and nonbank) was estimated at around US$86 billion at end-September 1997, of which banks owed US$62 billion. It was this component of the debt that triggered the crisis. By the end of November, short-term external bank debt had fallen from US$62 billion at end-September to US$49 billion, and further to US$33 billion at the end of December, representing an outflow of US$16 billion in a month.

Estimating the amount of financing needed in the fast deteriorating situation that prevailed in November 1997 was no easy task. In the event the staff report supporting the SBA request contained two different estimates of the financing needed for the rest of 1997 and 1998. In the text of the report, the total financing needed was indicated as US$55 billion but the detailed estimates in Table 6 of the same report (reproduced in columns 3 and 4 of Table A2.1) showed a smaller figure of US$33 billion. The difference between the two estimates was not reconciled in the staff report but interviews with the staff indicate that the larger estimate resulted from the initial expectation that the rollover rate on short-term bank credit would be only 20 percent. It was recognized that providing large volumes of financing from the IMF to Korea would be difficult because of the IMF's resource constraints and also because Korea's quota was unusually small relative to the size of the economy.[34] However, the staff worked on the assumption that IMF financing could be supplemented by additional amounts from other IFIs (the World Bank and the ADB) and bilateral sources (i.e., the second line of defense).

The second line of defense

The incorporation of bilateral financing to supplement IMF and other IFI resources was in line with the principles of the so-called Manila Framework, endorsed by the APEC summit meeting only a few days earlier on November 24, 1997, which envisaged the provision of bilateral financing to support IMF-supported programs when necessary. However, the availability of these resources turned out to be uncertain. There also appear to have been miscommunications on the second line's conditions and timing (in relation to the disbursement of the IMF's own resources) that compounded the problem.

The staff had initially incorporated a specific level of bilateral financing in the proposed IMF-supported program. At virtually the last minute, headquarters informed the mission that it could no longer count on the second line of defense being available as part of the financing for the "baseline" program. Additional decisions would be needed before any part of the financing could be released, and the financing could in any case not be made available for several weeks.

IMF management and staff recognized that, without the assured availability of official bilateral financing, the program would be underfinanced. They accordingly approached the major shareholder governments to explore the possibility of concerted action to involve the private sector in some form of rollover. The major shareholders, however, were reluctant to use nonmarket instruments to influence the behavior of private sector institutions, given the lack of clearly defined regulatory authority and the fear that such action might precipitate an exodus of capital from emerging markets.

Faced with these circumstances, the staff presented a financing scenario in which the availability of bilateral financing was not essential. This was achieved by modifying one of the key assumptions which determined financing need. Specifically, the fraction of short-term interbank loans from external creditors that was assumed to be rolled over was raised from the 20 percent assumed initially to 80 percent.[35] This arbitrary adjustment ensured that the amount of financing provided in the December 4 package would meet Korea's ex ante needs as projected in the program documents.

Although the program financing requirement was reduced in this way, the package publicly announced was US$55 billion, including a second line of defense in excess of $20 billion. The press notice released on December 4 announcing the Executive Board's approval of the program specifically stated:

> [A] number of countries (Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States) have informed the IMF that they are prepared, in the event that unanticipated adverse external circumstances create the need for additional resources to supplement Korea's reserves and resources made available by the IMF and other international institutions, to consider—while Korea remains in compliance with the IMF credit arrangement—making available supplemental financing in support of Korea's program with the IMF. This second line of defense is expected to be in excess of US$20 billion.

Market participants were highly skeptical as to whether the second line of defense would truly be available. Political opposition to "bailouts" of crisis countries was running high in several of these contributing countries and, since there was no clarity on the circumstances under which the amounts would be released, their availability was widely discounted.

The unrealistic rollover assumption implicitly contained in the December 4 program lowered the package's probability of success. It meant that, without a radical turnaround in confidence, the program was likely to be underfinanced. When this turnaround did not materialize, the credibility of the program (and of the IMF more generally) was damaged,

[34]The commitments made in Thailand, Indonesia, and elsewhere had already stretched resources thin. As of May 31, 1997, the IMF had approved financing arrangements totaling slightly less than SDR 18 billion (or US$25 billion); six months later, before the Korea package, this figure had risen to almost SDR 28 billion (or US$38 billion).

[35]These percentages were provided to the evaluation team by staff members and do not appear in the program documents. It is thus difficult to cross-check them and to determine which of the various possible aggregates the numbers refer to. Nevertheless, it is undoubtedly the case that a substantial change in the assumed rollover path took place at the last moment.

making the task of formulating a revised response to the crisis more difficult.

Negotiations on a second line of defense between the Korean authorities and those of the contributing countries eventually took place in the early months of 1998. These negotiations did not lead anywhere, however. Those close to the talks have advanced differing reasons as to why this was the case. There were differences of view regarding the appropriate pricing and technical conditions for the facility. However, the most likely explanation for the absence of agreement is that private sector financing conditions by that time had improved substantially, so that setting up another official financing facility did not seem necessary.

The coordinated rollover

With the failure of the December 4 program, usable foreign exchange reserves dwindled rapidly and the won fell sharply in the first weeks of December. The staff projected that usable reserves, which had been temporarily boosted by the IMF disbursement in early December, would fall from US$8.5 billion on December 14 to US$4.5 billion at year-end.[36] Further official financing was neither politically nor practically feasible. An attempted international bond offering by the state-owned KDB failed and was hastily withdrawn. A more vigorous and sustained increase in interest rates might have attracted some capital back into the country, but it could also have caused so much damage to Korea's highly leveraged corporate sector that its impact on market confidence could very well have been negative. The IMF mission in the field advised management that a restructuring of Korea's short-term debt would be necessary for resolving the liquidity problem.

It was in this context that the idea of pressing Korea's creditors to agree to a coordinated rollover and a maturity extension of their short-term claims gained renewed prominence.[37] The idea had been circulating among IMF officials and the large shareholder governments, as well as in the private sector, virtually from the start of the crisis and, as noted, had been raised by IMF management in its consultation with the major shareholder governments. It was also raised by foreign bankers in Korea with the authorities and IMF staff in early December, but did not receive support at that time from the banks' head offices.

[36]For comparison, Korea's average monthly imports in 1997 were US$12 billion.

[37]The written record on the evolution of this idea is thin. Most of the information in this and the following paragraphs is from interviews with IMF staff and former U.S. and Korean officials, as well as Kim and Byeon (2002). See also Blustein (2001).

The decision to urge the rollover on creditor banks appears to have arisen from discussions among Korean, U.S., and IMF officials immediately after the Korean presidential election on December 18. The President-elect's statements in support of the IMF-supported program had boosted its credibility in the markets. The incoming administration began to cooperate with the outgoing administration in vigorously implementing the program. Officials from large shareholder governments put aside their earlier concerns about excessive intervention, because of the gravity of the situation and the evident failure of the approach that had formed the December 4 program. Once the decision to pursue the rollover was made, it was arranged relatively quickly and announced on December 24, 1997. Central banks and finance ministries in the industrial countries contacted large banks based in their jurisdictions, which in turn contacted other lenders. The banks agreed to maintain their existing credit lines while they negotiated to extend the maturities of their claims on Korean banks. A system of daily monitoring of rollovers by individual banks, established with substantial IMF inputs, proved crucial in ensuring compliance.

Negotiations between the Korean government and the banks over the maturity extension began in early January 1998.[38] A tentative maturity-extension agreement was concluded on January 28, and the final terms were settled in February. While these negotiations were under way, a second rollover announcement was made on January 16, which committed the banks to maintain existing credit lines through the end of March 1998.

The pricing on the extended bonds shows that the market's confidence in the Korean economy had already started to revive. In April 1998, some US$22 billion of eligible bank debt maturing during 1998 was exchanged for government-guaranteed loans with from one to three years' maturity and interest rates between 225 and 275 basis points over LIBOR. In early April, the Korean government issued US$4 billion in 5- and 10-year global bonds, respectively at 345 and 355 basis points over U.S. treasuries. The spreads on both transactions were well below that on the JP Morgan EMBI+ index, which was never lower than 464 basis points in April 1998. Even after

[38]Two approaches were on the table. One involved a new bond issue that would simultaneously finance the maturity extension and raise new money. The second proposal, which would ultimately be adopted, called for a sequential approach, with the extension of the maturity of existing bank debts under a government guarantee to be followed by a new sovereign bond issue when market conditions were more favorable. When asked by the Korean authorities for their opinion, IMF management declined to favor one approach or the other, and urged the authorities not to reject any reasonable proposal for the time being. Kim and Byeon (2002) recount the negotiating process.

differences in maturity are taken into account, the more favorable borrowing terms offered to Korea suggest that by that point the market already assigned Korea a lower credit risk than most other emerging market borrowers.

Subsequent events would justify the confidence that international creditors showed in the Korean financial system in early 1998. All of the extended loans would be repaid by the original borrowers; the government guarantee was never exercised. As Korea's external financing conditions improved, most of the borrowers took advantage of prepayment options to refinance the debt at lower interest rates. Although only 63 percent of the debt was scheduled to mature by April 2000, 90 percent of it would end up being repaid by that date.[39]

Assessment

It is of course easier to draw lessons on matters of program financing after the fact than at the time, when information was incomplete, market reactions could not be anticipated, and decisions needed to be taken rapidly. Nevertheless, three aspects of the approach to financing and the role of the private sector in the Korean case are worthy of note.

First, to the extent that the Korean economy in late 1997 faced a shortage of liquidity rather than a long-term debt-sustainability problem, the successful resolution of the crisis depended as much on *how* and *how fast* new financing was to be provided as on whether it would be provided. A delayed or highly conditional commitment of funds would do nothing to reverse the drive by creditors to liquidate their investments while they still could. An immediate commitment of liquid funds, from whatever source, would convince lenders that their chances of repayment were reasonably high and that it would be worthwhile rolling over existing credit lines, though perhaps at a higher risk premium than before the crisis.

In this respect, the ambiguity over the second line of defense was clearly counterproductive. The IMF and the national authorities of the contributing countries may have hoped that the mere announcement of broad international support, in conjunction with strong IMF endorsement of the Korean authorities' policies, would be enough to restore market confidence and make any actual payout unnecessary. Given the absence of deeper solvency concerns, the announcement of official financing could have had the intended catalytic effect, and one can argue that this approach ex ante was worth the gamble. However, staff calculations suggest that the assumed increase in the rollover rate was unrealistic, especially in a very short time. Had the second line of defense been firmly committed, with clear indications to the markets that the funds would be automatically released if needed, the large "headline" figure might have produced a catalytic effect. In the event, there was too much uncertainty about their availability and the effort to influence the subtle dynamics of market confidence backfired. By including some US$20 billion that was not backed by actual commitments, the December 4 package only emphasized the extent of Korea's cash shortfall. The market became skeptical, and the announcement of the IMF package failed to provide the boost to confidence that had been hoped for.

The second lesson to be drawn is that, in the end, the coordinating role of the IMF in the context of the rollover agreement proved to be at least as useful in resolving the crisis as its ability to provide or mobilize financial resources. The success of the coordinated rollover and private sector debt restructuring would ultimately render the second line of defense irrelevant. While the authorities of the IMF's large shareholder governments made the key decision to pursue the rollover plan and to exert the necessary moral suasion on banks, the IMF played a useful role in facilitating communication among the different actors, in providing information, and in certifying that the policies to be pursued by the Korean authorities were appropriate. No single national government, nor any private sector institution, could have played this role as effectively.

A third lesson is that, for the success of a large financing package, the IMF's coordinating role must be complemented by strong engagement on the part of its large shareholders. The role of the United States in pressing for vigorous reforms has already been noted. As part of this process, officials of the U.S. and other large shareholders were in regular communication with IMF staff and management during and after the program negotiations. However, the public face of this involvement must be managed carefully. The presence of a U.S. Treasury official in close proximity of the negotiations caused some in the public to have a wrong perception of the IMF involvement in Korea.

Conclusions

A definitive statement on the "success" or "failure" of the IMF-supported program in Korea would depend on one's criteria for success. In terms of stabilizing markets and reversing capital inflows, the program announced in early December was clearly a

[39]The BOK's facility providing advances of foreign exchange at a penalty rate, the other vehicle by which the banks' huge overseas obligations were refinanced, was also repaid in full, and in fact made a profit of some W 6 trillion over the period from December 1997 to June 1998 (Baliño and Ubide, 1999, p. 42n).

failure, while the late December package can be called a success. However, one should also acknowledge that the key features of the second program became acceptable to the international community only after the strategy of the first was tried and proven to have failed. The depth of the 1998 recession may, in part, be attributed to the stringency of the financial sector restructuring measures required in the program—but significant restructuring would have been necessary whether or not a crisis occurred, and in any case the economy's subsequent strong recovery suggests that these effects were temporary. The program induced the Korean authorities to take the necessary decisive steps toward reforming the economy and, in this sense, made a contribution to building the foundation for Korea's impressive recovery. However, some needed reforms were later delayed or scaled back.

This annex has identified specific missteps in surveillance before the crisis, in the formulation of the adjustment program, and in the provision of financing that suggest lessons for the future. These are summarized below. More specific recommendations, including a discussion of the extent to which these lessons have already been identified and acted upon within the IMF, are discussed in the main report.

Surveillance

Partly because of Korea's consistently strong economic performance, IMF surveillance did not fully anticipate many of the elements that would contribute to the Korean crisis. With hindsight, shortcomings can be detected at two levels: the analysis of the implications of Korea's capital account liberalization policies in the 1990s, and the analysis of the vulnerabilities facing Korea in the months immediately preceding the crisis in 1997. Specifically, the IMF focused too much on the degree of capital market liberalization, and not enough on sequencing, thereby underestimating the systemic vulnerabilities introduced by a policy that combined liberalization of short-term flows, controls limiting long-term flows, and poor supervision of some of the institutions that borrowed externally. This was in keeping with the IMF's standard approach at the time, which viewed financial sector issues in terms of their impact on microeconomic efficiency rather than in terms of whether they might increase the risk of an external crisis.

IMF surveillance in the months preceding the crisis did identify many of the relevant vulnerabilities. However, it paid insufficient attention to issues that would prove central to the onset and evolution of the crisis, and the overall assessment proved to be excessively optimistic. In retrospect, five misconceptions hindered the ability of the staff to offer a more accurate assessment:

- An overestimation of the flexibility in Korea's exchange rate policies.
- An underestimation of the risk of a breakdown in funding the capital account. While recognizing that such a risk was present, particularly in the crisis conditions then prevailing in East Asia, the staff concluded that the authorities could handle any pressures by making renewed efforts in the area of financial reform, by addressing financial sector weaknesses, and by loosening controls on long-term external borrowing.
- Excessive optimism about the short-term impact on growth of rehabilitating and reforming the financial sector. The narrow range of growth estimates considered, based on the remarkable stability of Korea's growth rates over the previous decades, prevented the staff from exploring the consequences of a more serious slowdown.
- Insufficient attention to relevant market indicators, some of which (such as spreads on KDB issues) showed mounting wariness among investors well before the crisis began in earnest.
- Advice in the area of financial sector reform that was primarily oriented toward improving the long-term health and efficiency of the system. While this advice was generally well thought out, in the conditions of the summer and fall of 1997 when investors had become significantly more risk-averse, advice on securing the system against a possible crisis and preparing for the consequences of such a crisis might have been more helpful.

Several of these misconceptions had their origin in, or were exacerbated by, incomplete information and poor data availability. As discussed in the main report, this is an area in which substantial progress has been made since the Asian crisis, through the various initiatives on standards and codes.

Program design

Monetary policy

Some increase in interest rates was justified at the time of the crisis, given the need to prevent a collapse of the exchange rate and to maintain positive real rates in the face of high inflation expected to result from the depreciation of the won. The authorities also needed to demonstrate their determination to respond forcefully to the crisis. But, given the nature of the crisis, too much reliance was placed on high interest rates to stabilize the won. The key immediate issue in resolving the crisis was Korea's lack of liquidity, and there were too few channels through which high interest rates could remedy this shortfall. The lack of ownership of monetary policy on the part of the authorities no doubt further weakened its credibility and hence its signaling effect. Hindsight suggests that rates were maintained at a high level in early 1998 somewhat longer than necessary, although an excess of caution was understandable under the circumstances. However, the stance of monetary policy was not the major cause of the steep output decline.

Fiscal policy

Given the low stock of public debt, the IMF could have urged Korea to use fiscal policy to counteract the likely contractionary effects of financial sector restructuring from the beginning of the crisis, rather than waiting until the early months of 1998 to start giving this advice. In any event, the Korean authorities, reflecting their tradition of fiscal conservatism, were not very receptive to this advice and cut government expenditures. Fiscal policy nevertheless ended up being countercyclical because tax receipts fell even further and because of off-budget activities.

Structural reforms

The financial and nonfinancial structural reforms were extensive, and had a positive effect in improving the efficiency and stability of the Korean economy. In retrospect, however, while the IMF was justified in using its leverage to insist on such change as a condition for financial support, too much attention was paid to producing visible results quickly. More emphasis should have been placed on the overall strategy, not on specific short-term measures, with the authorities being given greater freedom in setting their own agenda. In the case of the financial sector, a home-grown agenda was already available in the form of the reports of the Presidential Commission, and efforts in this area benefited from the sense of country ownership. In the case of nonfinancial reforms, the extent of ownership was less clear. The immediate need for action in areas such as corporate governance, while potentially important in the long term, was not as apparent as the need to reform bankruptcy laws or address solvency issues in the financial sector.

As confidence rapidly returned to Korea, some aspects of financial sector reform were delayed, while many nonfinancial structural measures were in the end never fully implemented. Particularly given the negative backlash some of these measures created on the public perception of their origin, the IMF might have been better advised to confine its advice and conditionality to a narrower range of issues, and then let the Korean authorities define their own agenda to implement this more focused set of policy measures. This is particularly true of trade and other external liberalization measures, which were already mandated by Korea's agreements with the OECD and the WTO.

Financing and the debt rollover

The strategy adopted in the first program was predicated on the hope that tough monetary and financial sector policy measures would be sufficient to bring about a spontaneous rebound in confidence. In support of this strategy, the announced package kept a large "headline figure" that included a component whose availability was uncertain and was discounted by the markets. The attempt to present the financing package in as favorable light as possible proved damaging on two levels: in the short term, to the market's confidence in Korea's ability to overcome the crisis and, in the longer term, to the credibility of IMF-led financing arrangements generally. If the IMF and the authorities of the major shareholder governments had acknowledged the limited availability of these funds from the beginning, there might have been an earlier effort to seek alternative solutions, including a coordinated rollover of short-term debt.

Admittedly, it is difficult to be certain whether the private sector rollover and maturity extension of short-term bank debt could have been arranged earlier than they were. Some creditors wanted to eliminate their exposure to Korea under any circumstances. Others might have been more receptive to a coordinated rollover, but would not have wanted to make any further commitments in advance of the elections on December 18, 1997. Yet, according to individuals in the private sector interviewed by the evaluation team, from the very beginning of the crisis, some—if not many—creditors expressed an interest in finding a collective solution of some kind.

If the interest of some private creditors in concerned action had been recognized from the start of the IMF's involvement, there might have been a greater effort to establish contacts, think through the broad outline of such an agreement, and follow up on private sector initiatives, such as those of the Seoul Foreign Bankers' Association. IMF management appears to have understood that some concerted action might be necessary from the outset and communicated this message to the major shareholders, but the authorities of the IMF's large shareholder governments were initially reluctant, fearing that such action might set undesirable precedents and adversely affect the flows to other emerging economies. Given the domestic political uncertainties prevailing before the elections, and the constraints faced by the major shareholders, it may well be that the first strategy needed to be proven to have failed before concerted action could be attempted.

Appendix 2.1

Korea: Timeline of Major Events[1]

Date	
1/23/97	Hanbo Steel goes bankrupt with US$6 billion of debt.
6/3/97	The Presidential Commission on Financial Reform submits its second report to the President, recommending liberalization of the financial markets, independence of the central bank, strengthening of the supervisory system, and improvement of information efficiency.
6/24/97	Moody's states that the outlook for Korea's credit rating has deteriorated, reflecting the country's weakening financial health.[2]
	The Korea Development Bank provides additional loans to prevent bankruptcy of the Kia group.
7/24/97	Seoul Bank applies for special loans from the Bank of Korea, saying that it can no longer borrow funds abroad.
8/13/97	Korea First Bank is reported to be facing a liquidity crisis as a result of the reduction of its credit rating to junk status.
8/24/97	The Korean government decides to provide special loans of W 1 trillion to Korea First Bank.
8/29/97	The government issues a public statement that it will ensure the payment of foreign debt liabilities by Korean financial institutions.
10/6/97	Start of an IMF mission (lasting until October 15) for the 1997 Article IV consultations with Korea.
10/8/97	The Bank of Korea decides to provide special loans to merchant banks in order to secure credibility and liquidity in the financial market.
10/24/97	Standard & Poor's downgrades Korea's foreign currency long-term sovereign rating to A+ from AA–.[2]
10/29/97	The monetary authorities decide to accelerate capital account liberalization measures, including bringing forward the opening of the domestic bond market to foreign investors and easing restrictions on firms' raising capital abroad.
11/1/97	Moody's downgrades the credit ratings of four major Korean banks.[2]
11/2/97	The MOFE announces that it will supply up to US$2 billion in foreign exchange every day from the next day (November 3) for a week in order to stabilize the exchange rate.
11/7/97	A Korean newspaper reports that government financial experts are cautiously discussing the need for IMF-led rescue loans, because of a shortage of foreign exchange reserves. The Bank of Korea and the MOFE deny this.
	The IMF Managing Director says that the IMF is ready to help Korea, if Korea requests support.[2]
11/13/97	The Director of the Institute for International Economics tells the U.S. House Banking Committee that Korea would need at least US$50 billion to cope with the current financial crisis.[2]
11/18/97	A financial reform bill, setting up an independent, consolidated supervisory agency, fails to pass the National Assembly.
	The MOFE denies requesting rescue loans from the IMF.
11/19/97	The Finance Minister resigns and a new minister takes office.
	The new Minister of Finance and Economy announces measures to stabilize the financial market, including: (1) cleaning up nonperforming loans of the financial institutions by injection of public funds; (2) promoting restructuring of the financial sector through mergers and acquisitions; (3) authorizing the Bank of Korea to buy foreign exchange from branches of foreign banks; (4) expanding the daily exchange rate band from +/– 2.25 percent to +/– 10 percent; and (5) liberalizing the long-term bond market.
	The new Minister of Finance and Economy says the government will seek financial support from the U.S. and Japanese governments.
11/21/97	The Minister of Finance and Economy announces that the Korean government will ask the IMF for financial assistance. He suggests that the total amount of support could range from US$50 billion to US$60 billion, including loans from G-7 countries.
11/22/97	Standard & Poor's downgrades Korea's foreign currency long-term sovereign rating to A– from A+.[2]
11/26/97	A staff team from the IMF arrives in Seoul to negotiate a program to be supported by a Stand-By Arrangement.
12/2/97	The penalty rate for new injections of foreign exchange by the Bank of Korea to Korean commercial banks is raised to 400 basis points above LIBOR.
	Nine technically insolvent merchant banks are suspended.
12/3/97	Negotiations on the IMF-supported program conclude. The authorities formally request a three-year Stand-By Arrangement from the IMF in an amount equivalent to SDR 15.5 billion (US$21 billion), as part of a multilateral and bilateral financing package totaling US$55 billion.
12/4/97	The IMF Executive Board approves the Stand-By Arrangement.[2]
12/5/97	The government announces W 4 trillion expenditure cuts in a revised 1998 budget.
12/8/97	Korean press reports state that, according to a leaked IMF report, Korea's foreign reserves declined to only US$5 billion in the previous week.

Korea: Timeline of Major Events *(concluded)*

Date	
12/9/97	The Korean government offers to make special loans of W 1.18 trillion to Korea First Bank and Seoul Bank in exchange for layoffs of at least 1,500 personnel and a 10–30 percent expenditure reduction, and announces plans to nationalize the two banks.
	The government suspends the operation of 5 additional insolvent merchant banks, bringing the total suspended to 14.
	The Korea Development Bank postpones bond issues intended to raise US$2 billion. Foreign financial institutions are reportedly refusing to renew credit lines to the country.
12/11/97	A leading presidential candidate says he might renegotiate a deal with the IMF, reversing an earlier pledge to honor it.
12/15/97	The government announces that it will seek a foreign buyer for either Korea First Bank or Seoul Bank.
12/16/97	The government removes a 10 percent daily limit on the currency's daily movements, allowing the won to float freely against the dollar.
	An increase in the interest rate ceiling from 25 percent to 40 percent is approved by the cabinet.
12/18/97	Kim Dae-jung wins the presidential election.
	The IMF Executive Board completes the first review of the Korean program and activates financing of US$3.5 billion (SDR 2.6 billion) through the newly created Supplemental Reserve Facility.[2]
	The government hires two U.S. investment banks as advisers in the restructuring of government-guaranteed overseas borrowing by domestic banks.
12/19/97	President-elect Kim Dae-jung pledges support for the IMF-supported program, and says that he wants to minimize conditions that could lead to greater unemployment.
12/23/97	A high-level team led by the MOFE is established to enter into negotiations with foreign commercial bank creditors to facilitate extensions of short-term debt.
12/24/97	The Korean government and the IMF agree to a revision of the Stand-By Arrangement, under which Korea will undertake additional or accelerated market-opening measures in exchange for faster disbursement of IMF resources. Roughly US$10 billion in funding from the IMF, the World Bank, and the Asian Development bank is to be made available by early January.
	Several major U.S. banks are reported to be willing to roll over their loans to Korean banks.
12/26/97	Korea First Bank and Seoul Bank are reportedly placed under intensive supervision by the Bank Supervision Office.
12/29/97	Banks from the United States, the United Kingdom, Japan, Germany, and the Netherlands pledge to roll over short-term loans to Korean banks.[2]
	The National Assembly approves a package of important financial reform bills demanded by the IMF. As a result (1) the central bank will gain independence from the Ministry of Finance and Economy and (2) a new unified financial supervisory agency to oversee the bank, securities, and insurance sectors will be placed under the Prime Minister.
12/30/97	Banks in France, Switzerland, Italy, and Canada agree to roll over short-term loans to Korean banks.[2]
	The bond markets are fully opened to foreign investors. Investors will be allowed to take majority stakes in listed Korean companies and conduct "friendly mergers and acquisitions."
	The IMF Executive Board formally approves Korea's request for modification of the schedule of purchases under the Stand-By Arrangement.[2]
1/8/98	International banks tentatively agree to extend payment on as much as US$25 billion in short-term loans until March 31.[2]
1/15/98	A tripartite committee consisting of labor unions, business leaders, and the government is established to deal with labor reform and social safety net issues.
1/20/98	Labor leaders reportedly agree that some layoffs will be needed to rescue the economy.
1/28/98	International banks and the government reach an agreement on the rescheduling of Korea's short-term debt. Under the plan, Korean banks will offer to exchange their short-term debt for new loans with maturities of one, two, or three years.[2]
1/31/98	The government recapitalizes Korea First Bank and Seoul Bank, taking effective control of them.
2/17/98	The IMF Executive Board approves a review under the Stand-By Arrangement.[2]
2/18/98	Standard & Poor's upgrades Korea's foreign currency long-term sovereign rating to BB+ from B+.[2]
3/16/98	The plan to roll over financial institutions' external debt into new loans with one–three year maturities is concluded successfully.[2]
4/8/98	The government successfully launches its first international bond issue since the financial crisis, consisting of US$1 billion of 5-year notes and US$3 billion of 10-year bonds.[2]

Sources: Bloomberg, Korean government official homepage, Moody's, Standard & Poor's, IMF, and local Korean newspapers.
[1]Local time unless noted.
[2]Eastern standard time in the United States.