The Financial Crisis in Korea: Causes and Challenges

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Introduction

Faced with a currency crisis in November 1997, Korea asked assistance from the International Monetary Fund (IMF). On 3 December, the authorities and IMF agreed on a program amounting to $57 billion,[1] the largest in IMF's history. The program required a tight macroeconomic policy as well as comprehensive structural adjustment in the corporate and financial sectors.

Before the crisis, most people believed that Korean economic fundamentals were sound and that a foreign exchange crisis was impossible. The country's macroeconomic variables and foreign-debt-related indicators, such as debt-service ratio, suggested that it would not go the way of Mexico, Thailand, and other crisis-ridden economies.

Korea's economic performance had been the envy of the developing world during the last three decades. In December 1996, the country became the second Asian member of the Organisation for Economic Co-operation and Development (OECD). Its economic performance during the last five to seven years was impressive. Average growth rate was about 7-8 percent and inflation was stable at below 5 percent. Unemployment remained below 3 percent. The country registered either a fiscal balance or surplus. The only problem was the current account: after a surplus in 1993, it deteriorated continuously until the deficit peaked in 1996. However, the deficit was still below 5 percent of gross domestic product (GDP) and, even on the eve of the financial crisis, it was decreasing rapidly. Korea was compared favorably with other crisis- and debt-ridden countries except for its ratio of foreign reserves to short-term debt, which started to fall in 1996. Compared to that of other developing countries, its foreign-debt/GDP ratio was among the lowest.

Korea's sound macroeconomic performance and debt indicators led most observers to believe that the country would escape the foreign exchange crisis that had overwhelmed Indonesia, Mexico, and Thailand. The Korean people were shocked when their Government asked IMF for a bailout program.

Why did Korea find itself in a financial and currency crisis? The answer lies in the country's macroeconomic environment and structural problems, which led to (i) corporate overinvestment, (ii) a highly vulnerable financial structure, and (iii) banks' mismatch of foreign assets and liabilities. This paper analyzes not only macroeconomic policies before and during the crisis, but also structural problems and the development of the corporate financial structure, all of which led to the crisis.

Overinvestment in the corporate sector, which was financed largely by short-term debt, led to corporate insolvency, which, in turn, rapidly increased banks' nonperforming assets. It was facilitated by economic liberalization, which started in the 1990s under the old rules of the game—that is, that the Government would implicitly guarantee domestic as well as foreign loans and would not allow the *chaebol* (conglomerates) to go bankrupt.[2] The combined effect of relaxation of (i) restrictions on foreign loans, (ii) entry of financial institutions, and (iii) Government control over firms' entry into specific industries led to rapid investment expansion in 1994-1996 despite the corporate sector's declining profitability. The start of the domestic recession in late 1995 and severe terms-of-trade shock in 1996 aggravated the cash flow situation of highly leveraged firms, which already suffered from high wages, high interest rates, and low profits. The accumulated impacts pushed longstanding corporate sector problems to the surface, starting a chain of chaebol bankruptcies in early 1997.

As the Government could no longer afford to bail out the chaebol, and as Korean banks watched their nonperforming assets grow, foreign creditors reviewed the risk of lending to Korean banks and firms. Foreign creditors' and investors' confidence in the economy eroded rapidly as the Asian financial crisis broke out and it became clear that Government policy response to the crisis was flawed. Poor supervision contributed to the growing term mismatch between

banks' foreign assets and liabilities during capital liberalization, making the economy extremely vulnerable to runs by foreign creditors, which were triggered by the contagion in neighboring countries.

The paper is organized as follows. The next section discusses (i) developments in the macroeconomic environment, (ii) structural problems, (iii) corporate financial structure, and (iv) foreign debt structure in light of economic liberalization in the 1990s. The third section reviews macroeconomic policy management in the midst of globalization and the crisis, and analyzes mistakes in policy response. The fourth assesses the IMF program. The fifth specifies the challenges facing the economy and recommends policies. The sixth summarizes lessons from the financial and currency crisis.

Macroeconomic Developments and Economic Liberalization

Government intervention in resource allocation has been more pervasive in Korea than in other East Asian market economies. The country's rapid economic development during the last four decades has been based on a close partnership between Government and industry.[3] The Government spurred domestic entrepreneurs with cheap credit, export incentives, and other measures to draw their investments into the export, heavy, and chemical industries, establishing a kind of Government-business-industry co-insurance relationship. Until the early 1980s, the Government directly owned all major commercial banks, controlling their management and credit allocation even after they were privatized. Firms in trouble due to their overly ambitious investments or external shocks were saved by Government bailout credit and other measures to socialize their losses. When they were successful, they were allowed to keep their profits and expand rapidly. The chaebol moved into almost every industry, from semiconductors and automobile manufacturing to the hotel and retail business.[4] The top 30 chaebol represented almost half of total corporate assets and 14 percent of total employment.

Rapid economic growth and changes in both the domestic and international economic environment in the 1990s prompted economic, especially financial, liberalization. Financial liberalization had been attempted since the early 1980s, but did not progress for various reasons.[5] However, starting in 1993, it made headway domestically and internationally. Interest rates were almost completely liberalized and entry barriers to the banking and nonbanking sectors relaxed. (See Appendix.) Most restrictions on foreign capital flows were also removed. Although the Government continued to restrict foreign investment in domestic fixed-income assets, such as Government securities and corporate bonds issued by large firms, it quickly relaxed the restriction on foreign investment in the domestic stock market and on short-term trade-related credit.

It is notable that the Government quickly liberalized the foreign exchange business and foreign borrowing of domestic banks while controlling firms' direct foreign borrowing. This allowed rapid expansion of foreign debt channeled through the domestic banking system and, to a lesser extent, through direct borrowing of firms starting in 1994 (Table 1).

Macroeconomic Developments

Economic and financial liberalization did not cause significant macroeconomic imbalance, because the Government maintained prudent fiscal and monetary control and pursued a cautious approach to capital market opening.

The macroeconomic environment was stable throughout the 1990s. Economic growth rate was high, especially in 1994-1996, averaging at 8 percent (Table 2). Inflation was steady at about 5 percent. The domestic interest rate was high due to strong investment demand by firms, but gradually declining. Fiscal and monetary policies were also sound. Monetary policy was reasonably stable, although some-

Table 1: External Debt, 1992-1997 ($ billion)

Item	1992	1993	1994	1995	1996	1997[a]
Total external debt[b]	42.8	43.9	56.8	78.4	104.7	120.8
Long-term	24.3	24.7	26.5	33.1	43.7	69.6
Short-term	18.5	19.2	30.4	45.3	61.0	51.2
Public sector	5.6	3.8	3.6	3.0	2.4	18.0
Long-term	5.6	3.8	3.6	3.0	2.4	18.0
Short-term	0	0	0	0	0	0
Private sector	13.7	15.6	20.0	26.1	35.6	42.3
Long-term	6.5	7.8	9.0	10.5	13.6	17.6
Short-term	7.2	7.8	11.0	15.6	22.0	24.7
Financial sector	23.5	24.4	33.3	49.3	66.7	60.5
Long-term	12.2	13.0	13.9	19.6	27.7	33.9
Short-term	11.3	11.4	19.4	29.7	39.0	26.6
Total foreign obligation[c]	62.9	67.0	88.7	119.7	157.5	154.4
Long-term	26.0	26.7	30.3	41.0	57.5	86.0
Short-term	37.0	40.3	58.4	78.7	100.0	68.5
Public sector	5.6	3.8	3.6	3.0	2.4	18.0
Long-term	5.6	3.8	3.6	3.0	2.4	18.0
Short-term	0	0	0	0	0	0
Private sector	13.7	15.6	20.0	26.1	35.6	42.3
Long-term	6.5	7.8	9.0	10.5	13.6	17.6
Short-term	7.2	7.8	11.0	15.6	22.0	24.7
Financial sector	43.6	47.5	65.1	90.5	119.5	94.1
Long-term	13.9	15.0	17.7	27.5	41.5	50.3
Short-term	29.8	32.5	47.4	63.1	78.0	43.8

[a] Preliminary.
[b] World Bank standard of classification of external debt, which includes domestic residents' debt only.
[c] World Bank standard plus financial institutions' offshore borrowing and foreign branches' borrowing.
Source: Ministry of Finance and Economy, *Financial Statistics Bulletin,* various issues.

Table 2: Macroeconomic Indicators, 1980-1996 (percent)

Item	1980-1985	1986-1991	1992	1993	1994	1995	1996
GDP growth rate	6.3	9.9	5.1	5.8	8.6	8.9	7.1
Inflation (CPI)	10.9	6.1	6.3	4.8	6.2	4.5	4.9
Corporate bond yield rate	19.0	15.1	16.2	12.6	12.9	13.8	11.9
Money supply (M2) growth	20.6	18.8	18.4	18.6	15.6	15.5	16.2
Money supply (M3) growth	25.0	28.7	21.8	19.0	24.7	19.1	16.7
Fiscal deficit[a]/GDP	(2.5)	(0.2)	(0.7)	0.3	0.5	0.4	0.3
Current account/GDP	(3.8)	3.0	(1.5)	0.1	(1.2)	(2.0)	(4.9)
Foreign exchange reserves ($ billion)	7.1	12.2	17.1	20.3	25.7	32.7	33.2

( ) = negative values are enclosed in parentheses.
[a] IMF consolidated fiscal deficit.
Source: Ministry of Finance and Economy, *Financial Statistics Bulletin*, various issues.

what expansionary when measured by the growth of M3, which was not subject to control by the monetary authorities. Monetary growth rate further stabilized beginning in 1994 despite continued expansionary pressure from increased foreign capital inflow. The consolidated budget has produced a surplus since 1993.

The only imbalance was in the current account position. The country had a current account deficit throughout the 1990s, except in 1993, and this ex-

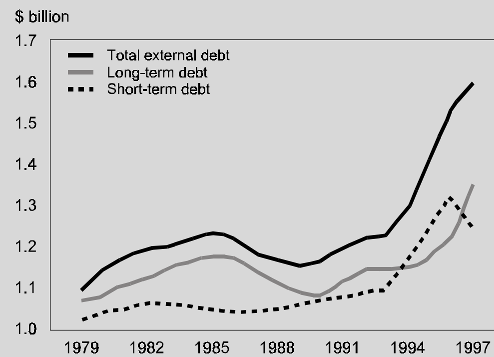
panded in 1995-1996 (Table 3). Nevertheless, official foreign reserves increased owing to large capital inflow.

Table 3: Trend of Foreign Exchange Supply and Demand, 1994-1997 ($ billion)

Item	1994	1995	1996	1997
Current account	(4.5)	(8.9)	(23.7)	(12.5)
Capital account	9.0	13.4	17.0	10.2
Overall balance	2.8	3.0	(5.7)	(8.6)
Foreign reserves	25.7	32.7	33.2	24.4

( ) = negative values are enclosed in parentheses.
Source: Bank of Korea, *Monthly Bulletin,* various issues.

Figure 1: Foreign Debt



Source: Ministry of Finance and Economy, *Financial Statistics Bulletin,* various issues.

The current account deficit expanded for several reasons:

- Private sector investment quickly increased.
- Trade shock ensued with the collapse of the international semiconductor market and decline of international prices of major export items, such as steel, ships, and petrochemical products. It was the greatest trade shock after the first oil shock, surpassing even the second oil shock.
- The won appreciated in real terms due to the yen's depreciation (Table 4). Unlike many other East Asian countries, Korea adopted the relatively flexible market average exchange rate system in 1990. Nevertheless, the yen's depreciation lowered Korean exports' competitiveness in 1995-1996, contributing to further widening of the current account deficit.

The expansion of the current account deficit and the opening of the capital market rapidly raised foreign debt in the 1990s. Such increase was facilitated by short-term capital inflow, especially in 1993-1996 when capital market opening accelerated (Figure 1).

Structural Problems

Despite a stable macroeconomic environment, structural problems intensified and became more obvious as the economy increasingly opened in the 1990s. These problems lay in the distorted incentive structure, which (i) encouraged overexpansion of corporate investment and (ii) misaligned relative prices, especially the overvalued exchange rate, which (a) distorted resource allocation and (b) reduced export competitiveness. Furthermore, political democratization strengthened the bargaining power of labor unions and rapidly raised real wages. The bubble effect of real property increased rents and the price of services. In addition, in a situation where asset values, rents, and exchange rates were misaligned, the chaebol expanded their social influence by increasing in size rather than by investing profitably

Table 4: Terms of Trade and Real Exchange Rate, 1991-1997

	1991	1992	1993	1994	1995	1996	1997
Export price index	94.2	93.2	93.6	95.2	100.0	86.6	75.0
Import price index	96.4	94.9	91.3	91.8	100.0	98.8	93.4
Terms of trade	97.7	98.2	102.5	103.7	100.0	87.7	80.3
Savings (% of GDP)	36.1	35.0	35.2	35.4	36.2	34.6	36.4
Investment (% of GDP)	39.1	36.8	35.2	36.2	37.4	38.6	33.3
Real exchange rate (W/¥; 1993=100)	90.9	91.6	100.0	104.3	94.7	87.9	92.6
Real exchange rate (W/$; 1993=100)	98.4	100.5	100.0	95.0	91.3	98.3	101.3

Source: Bank of Korea, *Economic Statistics Yearbook*, various issues.

and efficiently. This was why high interest rates persisted and wages rose faster than productivity. Poor prudential regulation and supervision failed to curb financial institutions' reckless lending to risky corporate investments.

Rapid Wage Increase

Domestic wages grew faster than labor productivity during the last decade (Table 5), making them higher than those of Hong Kong, China; Singapore; and Taipei,China (Table 6).

Table 5: Wage and Labor Productivity Increase (percent)

Item	1971-1986	1987-1995
Wage growth	21.2	16.1
Productivity growth	26.8	13.1

Source: Korea Productivity Center Estimates.

As a result, the corporate sector increasingly suffered from declining competitiveness and profits.[6] By the early 1990s, high wages began to take their toll and most exporting companies began to incur operational deficits.

Asset Inflation

The ratio of total land value to GDP soared to 9.2 in 1991. Although it gradually went down to 5.4 by 1994 owing to the accelerated growth of nominal GDP relative to stable land values since 1991, it was still high compared to other countries' ratios (Table 7). This resulted in high rental cost, rental income, and cost of living, which led urban workers to demand wage hikes.

Rising real estate prices meant that corporations' asset values increased more quickly than their operational sales deficits, allowing them to continue borrowing more money. This was supported by the rapid expansion of credit, especially by the nonbanking institutions. Therefore, in spite of deficits of many years, corporations were able to sustain investment expansion without significantly raising the debt/equity ratio on their balance sheets.[7]

Table 7: Land Value to GDP Ratio, 1994

Country	Total Land Value/GDP
France[a]	0.9
Japan	3.5
Korea	5.4
United Kingdom	1.6
United States	0.7
Taipei,China	3.3

[a] Figures are for 1993.
Source: National Statistical Office.

Misguided Corporate Incentives and Erosion of Corporate Profitability

The chaebol expanded their sales, assets, employment, and, consequently, their social influence. Although they had low marginal productivity of capital, their investment drive continued, motivated by rivalry among themselves for every major industry (including automobiles, steel, shipbuilding, retail, and petrochemicals). High interest rates persisted despite the high domestic savings rate because of the strong demand for capital. Likewise, increased demand for labor resulted in high wages, while the excessive activities of chaebol trade unions and the political democratization of the past 10 years perpetuated the high wage structure.

On the supply side, financial institutions' unimpeded credit support to the chaebol and their affiliated com-

Table 6: Hourly Wage in the Manufacturing Sector and Per Capita Income ($)

Item	Hong Kong, China	Japan	Korea	Singapore	Taipei,China	United States
Hourly Wage:						
1985	1.73	6.34	1.23	2.47	1.50	13.01
1990	3.20	12.80	3.71	3.78	3.93	14.91
1995	4.82	23.66	7.40	7.28	5.82	17.20
Per Capita Income:						
1995	22,990	39,640	9,700	26,730	12,293	26,980

Source: US Bureau of Labor Statistics, 1995.

panies encouraged the bubble effect. Monetary policy concentrated on controlling the growth of M2, which increased by only 5.4 times in the past 10 years, while nominal GDP increased by 4.4 times. However, another monetary indicator of the market's total liquidity, M3, grew about 10-fold (Table 8). Over the last 10 years, credit expanded rapidly through merchant banks and investment trusts, helping create the economic bubble.

Table 8: Asset Inflation and Monetary Growth, 1985 and 1995 (W billion)

Item	1985 (A)	1995 (B)	B/A
Nominal GNP	79,301	348,284	4.4
M2	28,565	153,945	5.4
M3[a]	55,450	527,017	9.5
CPI (1985=100)	100	176	1.8
Land value (1985=100)	100	510	5.1

CPI = consumer price index.
[a] M2 plus liabilities of nonbank financial institutions.
Sources: National Statistical Office; Bank of Korea, *Monthly Bulletin,* various issues.

With wages higher than labor productivity and interest rates higher than capital productivity over the past 10 years, companies were unable to accumulate profit. From the 1960s to the early 1980s, the Government controlled the financial industry and labor activities, keeping interest rates and wages below the real rate of return on capital and productivity increase. Thus, companies' profits were not fully distributed to households, but were plowed back into the companies' rapidly expanding operations. This was a major reason for the unprecedented growth of Korean firms, especially the large ones.

From the second half of the 1980s, however, this trend was reversed and households' and individuals' income support (through high interest rates and high wages) surpassed companies' real value of production. Despite higher individual and household income and consumption, profitability dropped. Operational deficits were sustained by debt expansion made possible by (i) increases in the value of corporate assets, (ii) expansion of nonbank financial institution (NBFI) credits, and (iii) accounting practices that disguised real losses.

Korean companies' profitability has deteriorated to a level much below that of firms in economies that have significantly lower financial costs, such as Japan; Taipei,China; and the US (Table 9). But real profitability, disguised by accounting practices, may have been much lower than the statistics suggest.

The chaebol have used their monopolistic position to transfer their costs, including high wages, interest rates, and rents, to consumers. However, with the launching of the World Trade Organization (WTO), import liberalization has made it harder to pass on costs to consumers, thus worsening the chaebol's losses.

Exchange Rate Overvaluation and Resource Shift Toward the Nontradable Sector

Despite the monetary authorities' sterilization efforts, the real exchange rate appreciated in 1995-1996 due to capital market opening and massive capital inflow. Real exchange rate appreciation could have been higher during the last decade, if adjusted further for unit labor cost.

The export sector suffered from low receipts and high factor costs while the nontraded sector had high

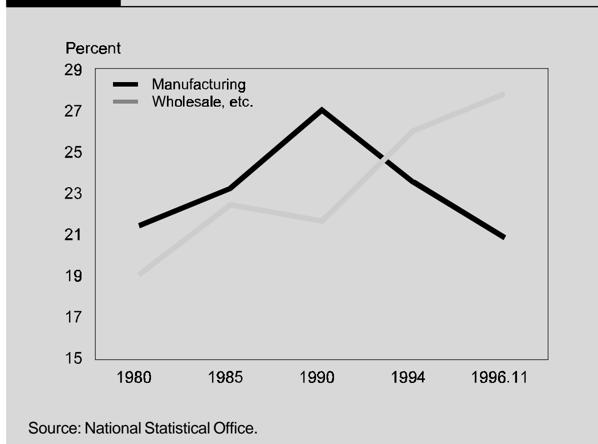
Table 9: Corporate Profitability in Manufacturing, 1989-1993 (%)

Item	Japan	Korea	Taipei,China	United States
Current profit/sales	3.38	1.97	3.72	3.06[a]
Current profit/assets	3.54	1.99	3.50	6.23[b]
Net profit/capital	na	5.03	11.77	na

na = not available.
[a] Net profit/sales.
[b] Operating profit/assets.
Source: Bank of Korea, Corporate Financial Statement Analysis, various issues.

profitability despite low technology. As a result, resources have moved rapidly from the export sector to production for the domestic market and from the trade to nontraded sector. The manufacturing sector, which once sustained the Korean economy, has become less important: its share of industry value-added dropped from 29.2 percent in 1990 to 26.9 percent in 1995. The service sector, however, continued to expand rapidly to 56 percent. The number of workers in manufacturing decreased while that in services, especially the wholesale, retail, and entertainment business, increased swiftly.

Figure 2: Employment Share of Manufacturing Sector



Source: National Statistical Office.

These trends are altogether too rapid for an economy such as Korea. As of November 1996, the number of workers in the wholesale, retail, and restaurant and hotel businesses accounted for 28 percent of the workforce, 7 percent higher than that of manufacturing (Figure 2). In contrast, Germany; Japan; Singapore; and Taipei,China have more workers in manufacturing (Table 10).

Seven of the largest chaebol went bankrupt in 1997 after longstanding corporate problems were brought to the surface by the following: (i) the recession, which started in late 1995; (ii) the terms-of-trade shock of 1996; (iii) the reckless investment drive in 1993-1995; and (iv) reduced credit expansion starting in 1995-1996. Banks' nonperforming loans also quickly eroded foreign creditors' confidence.

Financial Liberalization and the Development of Corporate Financial Structure

Complete liberalization of domestic interest rates and the rapid expansion of NBFIs, whose main business was short-term bill transactions, resulted in the deterioration of the corporate sector's financial structure. This led firms to rely on short-term debt, which made them increasingly vulnerable to liquidity shock.

Financial liberalization in the 1990s further accelerated the growth of the financial sector, which had developed rapidly in the 1980s owing to stable inflation and high real interest rates. The financial interrelation ratio increased from 442 percent in 1991 to 555 percent in 1996. M3 grew from 114 percent of GDP in 1991 to 159 percent of GDP in 1996, helping finance the fast expansion of corporate investment in the 1990s (Table 11).

Investment went up rapidly in 1995-1996 due to the following:

- The yen appreciated steeply beginning in late 1993, benefiting Korean industrialists.
- After the Government announced its intention to join the OECD in 1994, the expectation of further financial opening and the resulting de-

Table 10: International Comparison of Manufacturing Share in Total Employment (%)

Item	Germany (1994)	Japan (1994)	Korea (1996.11)	Singapore (1994)
Manufacturing	28.7	23.2	21.0	27.0
Wholesale, retail, hotel and restaurant businesses	15.1	22.4	28.0	22.8

Source: Ministry of Finance and Economy, *Financial Statistics Bulletin*, various issues.

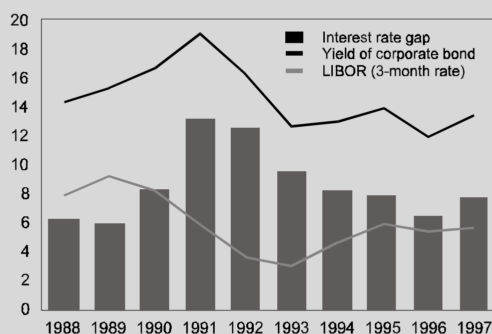
Table 11: Financial Interrelation Ratio (FIR) and M3/GDP Ratio (%)

	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996
FIR	271	308	394	433	442	467	490	512	526	555
M3/GDP	39	49	70	111	114	125	134	146	151	159

FIR = Increase in financial assets/Increase in capital stock, GDP = gross domestic product.
Source: Bank of Korea, Flow of Funds, various issues.

cline in domestic interest rates encouraged domestic firms' heavy investment in production capacity. The gap between domestic and foreign interest rates gradually narrowed starting in 1992 (Figure 3).

Figure 3: Domestic and Foreign Interest Rate Gap



LIBOR = London interbank offered rate.
Source: Ministry of Finance and Economy, *Financial Statistics Bulletin*, various issues.

Prior to economic deregulation, the Government controlled firms' entry into industries it deemed crowded. This checked, to some extent, reckless investment and buildup of overcapacity caused by the moral-hazard effect of the Government's implicit risk partnership and strong rivalry among the chaebol.[8] But economic deregulation under the previous administration (1993-1998) stopped Government intervention. When the Government brought down entry barriers, it should have controlled the chaebol's reckless investment. For instance, it should have limited cross subsidization among affiliated firms within the chaebol through cross-guarantee of loans and transfer pricing, and it should have given clearer signals that it would no longer bail out troubled firms. But it was only after the crisis broke out and the IMF program was negotiated that the Government moved to rein in the chaebol.

Investment expansion in the 1990s, especially in 1994-1996, relied heavily on short-term financing. Table 12 shows the financing pattern of the 30 largest chaebol in 1994-1996: they were largely dependent on debt, particulary short-term debt for financing their investment, which rapidly increased their short-term liability. This practice was not limited to the chaebol, but was common in the corporate sector (Kim 1998).

Table 13 shows the sources of funding for the corporate sector. Much of the increase in short-term financing was due to the accelerated growth of the commercial paper (CP) market. This market expanded rapidly when the Government deregulated it in 1994 by (i) removing administrative controls on its yield, (ii) reducing the minimum unit amount, and (iii) allowing it to offer a higher interest rate than bank deposits. The CP market also grew fast because it was not subject to monetary control.[9] Another important factor was regulatory oversight. CP was issued by large firms, discounted by short-

Table 12: Financing Pattern of the 30 Largest Chaebol, 1994-1996 (%)

	Internal Fund	External Fund				Total
		Total	Capital Increase	Long-term Loans	Short-term Loans	
1994	41.2	58.8	1.2	9.8	47.7	100.0
1995	36.8	63.2	1.4	12.2	49.7	100.0
1996	22.4	77.6	1.3	12.7	63.6	100.0

Source: The Korea Center for Free Enterprise, 1997.

Table 13: **Funds Raised by the Corporate Sector, 1994-1997 (W billion)**

	1994		1995		1996		Jan-Jun 1997	
	Amount	%	Amount	%	Amount	%	Amount	%
Total funds raised	89,041	100.0	100,016	100.0	118,201	100.0	62.101	100.0
Borrowing from banks and NBFIs	39,650	44.5	31,855	31.8	36,995	31.3	29,755	47.9
Direct finance	33,940	38.1	48,071	48.1	55,601	47.0	19,161	30.9
Commercial paper (CP)	4,405	4.9	16,096	16.1	20,691	17.5	5,277	8.5
Borrowings from abroad	4,407	4.9	8,392	8.4	12,063	10.2	5,732	9.2
Others[a]	11,044	12.4	11,699	11.7	13,542	11.5	7,453	12.0

NBFI = nonbank financial institution.
[a] Trade credits, borrowings from Government, bills payable, etc.
Source: Bank of Korea, *Quarterly Economic Review,* various issues.

term finance companies or merchant banks and resold to other holders with guarantees. Guarantee of CP was against the rules, but the practice went unchecked by the regulatory authorities. CP was a risky asset but it was traded with high yields as if it were risk-free. The market expectation (i.e., moral hazard) that the Government would not allow the chaebol to go bankrupt also contributed to the CP market's rapid expansion.

Liberalization of interest rate controls opened the floodgates for rapid expansion of the short-term securities market. But the failure of the market and the authorities to institute proper supervisory and monitoring mechanisms increased overall risk. Fast growth of the short-term securities market may have been desirable, but in the absence of proper supervision, the market participants were subject to moral hazard.

The corporate financial sector became weaker. Its short-term liabilities and leverage ratio rose as it invested in heavy and chemical industries, which required a long gestation period. Corporate profits declined due to (i) overexpansion, (ii) high labor cost, and (iii) high interest payments. Poor financial structure and profitability and domestic economic recession resulted in a chain of chaebol bankruptcies in early 1997. Financial liberalization, coupled with the market's inability to assess risk and monitor investment behavior, led to overinvestment, which was financed heavily through short-term debt. As a result, firms became vulnerable to liquidity shock.

Capital Market Opening and the Increased Term Mismatch

Capital market opening accelerated beginning in 1994. The Government, however, feared that with the large gap between domestic and international interest rates, opening the capital market quickly would destabilize the domestic macroeconomic environment. It thus employed a gradual approach, liberalizing real transaction-based flows, such as short-term trade credit, first, and then pure portfolio transactions later. This strategy was to guard the economy against volatile movement of portfolio investment, especially speculative short-term flows involving domestic securities investment. But it gradually opened the domestic stock market to foreign investment in 1993 while restricting foreign investment in domestic fixed-income assets.[10]

Aware of domestic firms' strong appetite for capital, the Government continued to control their direct borrowing from abroad. But it was more lax with domestic banks and allowed the proliferation of licensed financial institutions, which could engage in foreign exchange transactions. In 1994-1996, it permitted the conversion of 24 short-term finance companies, which were prohibited from undertaking foreign exchange transactions, into merchant banks, which could engage in such activities. During the same period, 28 foreign branches of domestic banks were established.

The new merchant banks, although lacking experience in foreign capital transactions, immediately

Table 14: Long- and Short-term External Debt, 1991-1997 (%)

Item	1991	1992	1993	1994	1995	1996	1997
Share in External Debt							
Long-term debt	56.0	56.8	56.3	46.6	42.2	41.7	42.4
Short-term debt	44.0	43.2	43.7	53.4	57.8	58.3	57.6
Percent Change							
Long-term debt	25.9	11.0	1.6	7.3	24.9	32.0	17.2
Short-term debt	20.3	7.6	3.8	58.3	49.0	34.7	14.1

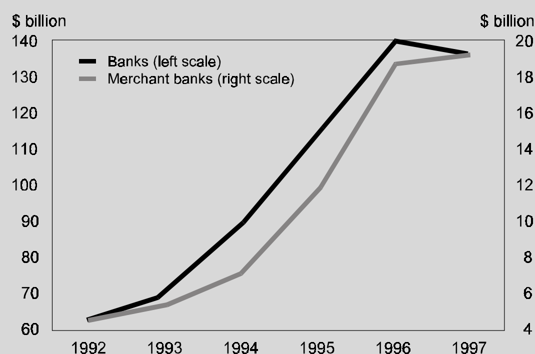
Source: Ministry of Finance and Economy, *Financial Statistics Bulletin*, various issues.

Table 15: Term Mismatch in Foreign Assets and Foreign Liabilities, 1992-1996 ($ billion)

Item	1992	1993	1994	1995	1996
Banks					
Short-term foreign debt (A)	45.8	49.8	65.8	85.8	104.8
Short-term foreign assets (B)	39.0	44.5	54.9	68.6	84.1
Ratio (%): (B)/(A)	85.2	89.3	83.4	80.0	80.3
Merchant banks					
Short-term borrowing (A)	3.3	3.6	5.1	7.1	12.6
Short-term investment (B)	0.1	0.1	0.2	0.2	0.8
Ratio (%): (B)/(A)	3.6	4.0	3.0	3.1	6.3

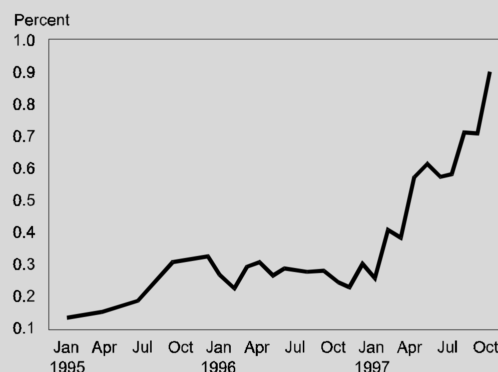
Source: Bank of Korea, *Monthly Bulletin,* various issues.

Figure 4: Foreign Borrowing of Banks



Source: Bank of Korea, *Economic Statistics Yearbook,* various issues.

Figure 5: Interest Rate Spread of the Korean Banks' Borrowing



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

expanded their foreign borrowing (Figure 4). This and the widening current account deficit in 1994-1996 led to a rapid increase in foreign debt.

Foreign debt more than doubled in 1992-1996, with the greatest increase in 1994-1996, at an average annual growth rate of about 30 percent. Such growth is mainly due to short-term loans (Table 14).

The rising share of short-term debt may not necessarily have been bad, since it may reflect the deepening integration of the domestic into the global financial market. Most advanced economies have a higher share of short-term debt than Korea. But the real problem was the growing term mismatch between Korean banks' foreign liabilities and assets, which started to worsen in 1994 (Table 15). This was most pronounced for merchant banks.

Recognizing the risk from such mismatch, foreign creditors demanded higher premiums on Korean banks' borrowing rate in early 1997 (Figure 5). Nevertheless, the mismatch problem remained unchecked by the regulatory authorities. It was only in June 1997

that the authorities introduced a rule which limited holdings of long-term assets through short-term borrowing.

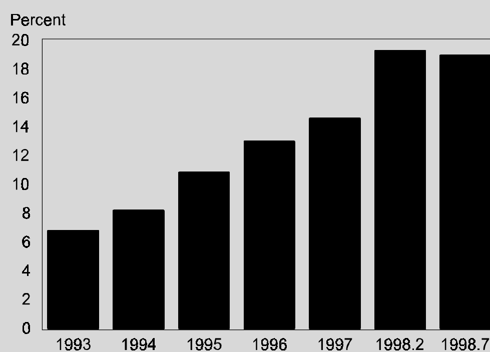
In sum, the capital-opening strategy and lack of prudential regulations governing banks made the economy increasingly vulnerable to a foreign exchange crisis.

Macroeconomic Policy Management

A Brief Assessment of the Degree of Globalization

In the 1990s, the economy was quickly integrated into the global economy. Former President Kim's administration (1993-1998) campaigned intensely for "globalization." The campaign went beyond economic globalization—it accelerated capital market opening and other economic deregulation measures. The country's intention to join the OECD also facilitated globalization. Consequently, domestic financial markets became more accessible to foreign financial institutions. The accelerated capital market opening contributed to narrowing the gap between domestic and foreign interest rates, whose movements became more synchronized (Figure 3). Foreign shareholding in the stock market also increased substantially (Figure 6).

Figure 6: Shareholding by Foreign Investors in the Domestic Stock Market



Source: Korea Stock Exchange Website.

These are indications that the integration of the economy into the global economy proceeded briskly since 1993. However, domestic institutions and market infrastructure lagged behind. Domestic competition policies, corporate governance structure, and banking regulations were not adjusted concomitantly. By the mid-1990s, the economy had outgrown its own institutional capacity. As a result, it became increasingly inefficient and vulnerable to changes in the external economic environment.

Macroeconomic Policy Management in the Midst of Globalization

Although it pursued a sound macroeconomic policy, the Government failed to address the economy's structural weakness which led to bubbles by the early 1990s.

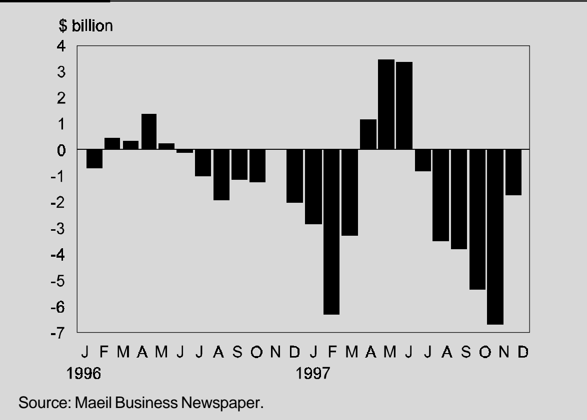
The flawed competition policy, which allowed cross-subsidy through various means, including transfer pricing and cross-loan guarantees among affiliated firms, went unchecked. Small shareholders' right to monitor and check management efficiency was blocked by, among others, poor accounting practices. Financial sector's poor credit analyses, moral hazard nurtured under the past development strategy, and poor prudential regulation and supervision facilitated the financial institutions' reckless lending to risky corporate investments. Demand for capital and labor, however, continued to expand.

In the early 1990s, the economy was already showing signs of growing structural distortions characterized by high wage levels, interest rates, rental costs, and logistic costs. Nevertheless, corporate investments remained strong due to the distorted incentive structure and unrealistic expectations, which were left uncorrected during the fast-paced globalization in 1993-1996.

Another area of Government oversight was management of the exchange rate policy. Although macroeconomic policy in general was sound during the period of globalization, exchange rate policy was controversial. The economy showed signs of waning competitiveness; the current account deficit deteriorated sharply in 1996. The authorities should have let the exchange rate slide as market forces started

to push down the currency's value in the second half of 1996. Instead, they tried to sustain the overvalued exchange rate by intervening in the market at the cost of about $17 billion (Figure 7).[11]

Figure 7: **Intervention in the Foreign Exchange Market ($ billion)**



Source: Maeil Business Newspaper.

Government motives for intervening were to (i) stave off the inflationary impact of depreciation and (ii) limit exchange losses of heavily indebted chaebol. But considering the large current account deficit and relatively small foreign reserves, it does not seem to be the right policy response.

Inconsistency of Macroeconomic Policies

In a broad sense, the country's financial and currency crisis resulted from its failure to reform its institutions to match the economy's growing openness to and integration into the global market. Rapid economic growth since the 1960s made the economy and private sector sophisticated enough so that Government intervention in resource allocation was no longer efficient or effective. Thus, economic liberalization was the correct policy response. However, to some extent, it was driven by both internal and external pressures. The external pressure to liberalize trade and open the capital market came from the establishment of the WTO and continuing trade disputes with the Western economies. Since Korea already had relatively low tariff rates of around 6-7 percent, trade liberalization focused on reducing nontariff barriers and deregulating foreign direct investment in areas such as distribution and retail trade. The greatest pressure was on financial market opening. It came not only from external sources, but also from the chaebol, whose operations had been globalized.

Financial liberalization, however, was not accompanied by the necessary reform of firms and financial institutions. The uneven competition policy and lax prudential regulations remained intact. Although economic liberalization was an appropriate policy response to the changing internal and external environments, it emboldened domestic firms and financial institutions to explore tremendous moral-hazard opportunities. In the past, moral hazard had been partly offset by regulations such as entry restrictions and controls on internal and external borrowing. During the deregulation drive, the Government should have implemented institutional reforms in competition policies, prudential regulatory framework, and the labor market.

At the macroeconomic level, overemphasis on price stability when the currency was overvalued prevented currency depreciation, further eroding Korean exports' competitiveness and fueling speculation on the currency's future depreciation.

Macroeconomic Policy Management During the Crisis

The accumulated impact of structural weaknesses started to surface in early 1997. For example, Hanbo, which had swiftly expanded in real estate and construction of residential buildings, moved into the steel mill business and invested heavily by raising short-term debt. When its cash flow was squeezed by the domestic recession, it could no longer repay its loans and went bankrupt in January 1997. Six of the 30 largest chaebol followed suit. Kia, one of the three major automakers, and the ninth largest chaebol, defaulted in July.

The Government let them go bankrupt as it could no longer intervene in the credit market or through

monetary expansion. However, with the presidential election at the end of the year, political circles pressured the Government to prevent the massive bankruptcy. A "cooperative creditors group" was established, including banks and merchant banks, to provide rescue loans to financially troubled chaebol, which only postponed the bankruptcies but could not save the firms. The Government was politically pressured not to let Kia fail or be merged, for example. When Kia could no longer be supported by a rescue loan, it finally went bankrupt in October 1997. Foreign investors' confidence in the Government was eroded, especially when it announced that it would become a major shareholder of Kia by converting the Government-owned Korea Development Bank's loans to equity capital of the company.

As corporate insolvency increased, so did banks' nonperforming assets. Banks, especially merchant banks, were the main channel of foreign loans. When their nonperforming assets became increasingly conspicuous, foreign creditors expected the Government to recapitalize the banks or close down those with no hope of recovery. Instead, the Government came up with a scheme that would obviously not cure the problem. On 25 August 1997, as the corporate and financial sectors' difficulties mounted, the Government promised to financially support troubled banks and to ensure that Korean financial institutions' foreign debt liabilities would be repaid. It also required financial institutions to submit three- to five-year restructuring plans. These measures did little to reassure the market. With the failure of the National Assembly to pass bills based on the recommendations of the Presidential Commission on Financial Sector Reform, foreign investors' confidence was eroded even further, dimming long-term economic prospects.

When the Thailand crisis broke out, foreign investors' confidence was practically nil. The crisis underscored other East Asian countries' vulnerability, notably their (i) macroeconomic instability, (ii) financial weakness, (iii) political volatility, (iv) wavering commitment to reform, and (v) unclear future. However, the Government failed to restructure the financial sector or introduce reforms to strengthen the economy. The Ministry of Finance and Economy and the Bank of Korea had long battled over monetary policy and banking supervision in the new financial reform package. The Government's way of handling the Kia problem and financial restructuring issues disappointed foreign investors. The upcoming presidential election added to the uncertainty.

Although the possibility of a currency crisis became evident in late October, the Government still did not take decisive action. The pressure on the won intensified. Instead of increasing domestic interest rates, the authorities defended the currency and used foreign reserves to prevent the default of Korean banks' foreign branches and of merchant banks whose short-term debts were no longer being revolved. They also maintained a loose monetary policy to support rescue loans by financial institutions. The intervention plunged usable foreign exchange reserves to below $10 billion, or less than a month's imports (Table 16). Speculation that the authorities had depleted the country's foreign reserves triggered the currency's free fall.

Table 16: Official Foreign Exchange Reserves, End of Quarter, 1996-1998 ($ billion)

		1997				1998		
Item	Dec 1996	Mar	Jun	Sep	Dec	Mar	Jun	Jul
Deposits at overseas branch	3.8	8.0	8.0	8.0	11.3	5.4	3.7	3.6
Usable foreign reserves	29.4	21.1	25.3	22.4	8.9	24.2	37.0	39.3
Others	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
Total official foreign reserves	33.2	29.2	33.3	30.4	20.4	29.8	40.9	43.0

[a] Based on IMF definition.
Source: Ministry of Finance and Economy, *Financial Statistics Bulletin,* various issues.

On 19 November, the Government announced another set of policy measures to deal with the mounting financial crisis: (i) increased funding to deal with nonperforming assets of financial institutions, (ii) further liberalization of capital account transactions, and (iii) enhanced disclosure standards and loan classification requirements. This failed to calm the markets. On the same day, the authorities declared that the daily exchange rate band had been widened to plus and minus 10 percent, and that they would cease to intervene. The won continued its free fall. From late November to December, the won depreciated more than 50 percent against the dollar. The Government asked the Japanese and US Governments for rescue support, but without success. On 21 November, it formally requested the IMF for bailout credit.

In retrospect, the Government had no options left but to let the won depreciate, tighten its monetary policy, and ask for IMF assistance. However, the situation has already worsened as the Government attempted in vain to avert the crisis by intervening in the exchange market until foreign reserves were almost completely depleted.

The IMF Program and Assessment

The IMF Program

The Government began to implement the IMF program in December 1997. Since then, IMF has frequently reviewed the economy's performance and adjusted the program several times. The IMF program consists of two parts: macroeconomic adjustment and structural reform. Macroeconomic adjustment means tightening the fiscal stance and sharply raising domestic interest rates. Initially, IMF required the authorities to keep a fiscal balance or maximum deficit of 0.8 percent of GDP, and a tight monetary policy. Interest rates were drastically increased; call market rate rose monthly from an average of 14.1 percent in November 1997 to 21.6 percent in December 1997 and 25.6 percent in January 1998; corporate bond yield also went up from 14.1 to 24.3 and 23.4 percent for the same period.

On top of the shock caused by the currency crisis, the tight fiscal and monetary stance led to a dramatic fall in investment and consumer confidence. The economy contracted sharply, with investment plunging about 30 percent and import demand about 25 percent in the first half of 1998. Unemployment went up from 2.1 percent in October 1997 to 7 percent in June 1998. Official projection for economic growth in 1998 was -4 percent, but the actual growth rate was even lower at -5.5 percent. In the review of July 1998, IMF changed its position on macroeconomic policy and suggested that the fiscal deficit be expanded drastically to prevent too-fast economic contraction. The Government set a deficit of up to 4 percent. Interest rates have gradually declined since February 1998, and as the exchange rate further stabilized, they have settled at near precrisis levels (Table 17).

The structural adjustment part of the IMF program focuses on four areas: (i) trade liberalization, (ii) capital market opening and liberalization of foreign exchange control, (iii) corporate restructuring, and (iv) financial sector restructuring (see Appendix).

Table 17: Macroeconomic Developments After the Crisis

Indicator	1997 Jul	1997 Aug	1997 Sep	1997 Oct	1997 Nov	1997 Dec	1998 Jan	1998 Feb	1998 Mar	1998 Apr	1998 May	1998 Jun
Corporate bond yield (%)	11.9	12.1	12.4	12.5	14.1	24.3	23.4	19.8	19.0	18.1	17.9	16.6
Call rate (%)	11.4	12.5	13.3	13.6	14.1	21.6	25.6	23.5	22.6	21.2	18.5	16.3
Exchange rate (W/$)	891	896	909	922	1,026	1,484	1,707	1,623	1,505	1,392	1,395	1,397
Unemployment rate (%)	2.2	2.1	2.2	2.1	2.6	3.1	4.5	5.9	6.5	6.7	6.9	7.0
Current account ($ million)	(1,045)	(498)	(510)	(488)	864	3,585	3,060	3,994	3,629	3,859	4,262	3,434

( ) = negative values are enclosed in parentheses.
Source: Bank of Korea, *Monthly Bulletin,* various issues.

A timetable for trade liberalization was set in line with the WTO commitment to eliminate (i) trade-related subsidies, (ii) restrictive import licensing, and (iii) the import diversification program.

Regarding capital account liberalization, the Government took the following measures:

- Increased the ceiling on aggregate foreign ownership of listed shares from 26 to 55 percent and eliminated the ceiling completely by end-1998.
- Raised individual foreign ownership from 7 to 50 percent.
- Immediately removed restrictions on foreign access to domestic money market instruments and the corporate bond market.
- Set a timetable to eliminate all remaining restrictions on corporate borrowings, including loans with one- to three-year maturities, by end-1998.

To restructure the corporate sector, the Government must complete the following key tasks:

- Improve the corporate governance structure by removing restrictions on institutional investors' voting rights in listed companies.
- Strengthen minority shareholders' rights.
- Increase transparency of corporate accounting practice by requiring publication of consolidated financial statements for affiliated firms.
- Reduce cross-guarantees among affiliated firms.
- Liberalize domestic mergers and acquisitions by eliminating the mandatory tender offer requirement.

To facilitate financial restructuring, the Government has established the conditions necessary to (i) accelerate the exit of insolvent banks, (ii) rehabilitate troubled banks, and (iii) strengthen prudential regulations.

Assessment of the IMF Program

Overall, the IMF program is reasonable. IMF has been flexible, adjusting the program according to developments in the economy. At first, it might not have fully understood the economy, but it soon came to better understand the situation of firms and financial institutions. This, together with domestic and foreign criticisms, contributed to the program's flexibility.

Initially, the IMF program had some problems. Facing a currency crisis, the country needed to substantially improve its current account position through tight aggregate demand control, as IMF suggested. But as Table 17 shows, the economy was already contracting fast, its fiscal position was sound, and the current account started to turn to surplus in November 1997, when the currency crisis was about to break out. Thus the fiscal stance did not need additional tightening. Another problematic issue was the high interest rate policy. When the IMF program started in December 1997, the foreign exchange market was extremely unstable; a high interest rate policy was inevitable. But it is debatable whether increasing the interest rate to such a high level and sustaining it for such a long period was appropriate.

The financial crisis was caused by widespread corporate insolvency and the resulting rise in banks' nonperforming assets. Korean firms' debt/equity ratio has always been much higher than that of firms in other countries. It is estimated that, at the end of 1997, the largest 30 chaebol's average debt/equity ratio was over 500 percent. If they did their accounting based on the consolidated balance sheet, then the actual ratio was much higher. The interest rate increase was thus a very costly measure in Korea. It would inevitably lead to massive bankruptcies, which, in turn, would cause financial institutions' nonperforming loans to snowball, further eroding foreign creditors' confidence that the economy would recover.

Although the high interest rate policy had its merits in stabilizing the foreign exchange market, its costs seemed to have outweighed its benefits for several reasons:

- Under conditions of great uncertainty and failure of confidence, high interest rates could not be expected to attract substantial foreign capital inflow.[12]

- The country's foreign exchange control limited capital flight.
- Such high corporate debt/equity ratio and high interest rate policy intimidated potential foreign investors.

Although high interest rates were inevitable in the first several weeks, the IMF program could have chosen to reduce interest rates more quickly which would have kept down the banks' nonperforming assets.

The IMF program may also be criticized for completely eliminating restrictions on foreign investment in domestic money market instruments and in Government and corporate bonds. Opening the market could not attract the very foreign investors who had lost confidence in the Government. But the same policy would burden the economy once the foreign investors' confidence returned and massive short-term capital flowed in. Although the policy has not harmed the economy so far, one may question why IMF had insisted on it.

IMF recently recommended a drastic increase in the fiscal deficit, which is understandable considering the economy's sharp contraction. But if the country is to regain foreign confidence, it must have a large current account surplus, which means that the Government must continue to control demand as export prospects are poor. The Government also needs to provide a huge fund for restructuring ailing banks, even at the expense of medium- and long-term fiscal soundness. It is not clear why IMF recommended a sharp increase in the fiscal deficit, which it has rarely done in other countries. IMF may be responsible for preventing a too-sharp contraction of the Asian economies in order to avoid worldwide recession, but its turnaround after the G-7 deputy ministerial meeting in Tokyo, which agreed to boost the Asian economies, can give rise to the thought that IMF considers the advanced economies' interests more important than the program countries' long-term fiscal viability and structural adjustment.

IMF's structural adjustment measures, however, are appropriate, although it would be better if the program strengthened tax administration and liberalized land policy. Poor tax administration allows widespread tax evasion, which limits tax revenue and raises the unfairness of the tax incidence. The Government needs more fiscal expenditures in order to (i) restructure the financial sector, (ii) ease the bottleneck of social infrastructure, and (iii) establish social safety nets. Unless tax administration is strengthened and tax revenue increased, the country may find itself caught in a vicious circle of chronic fiscal deficit.

The program could also have liberalized land policy. Restrictions on land use resulted in extremely high land prices and rents, which increased the cost of production and cost of living, which, in turn, propelled high wages (Cho 1998). If, for instance, the Government were to release about 10 percent of the land earmarked for agricultural use, it would almost double the supply of residential land.

Challenges Facing the Korean Economy

The Korean economy faces a difficult situation. The Government must perform two tasks: (i) resolve financial sector problems, i.e., clean up losses already incurred; and (ii) reduce the structural problems discussed above as well as establish new rules and institutions to prevent further deterioration of the corporate environment.

Resolving Financial Sector Problems

The country's financial sector problems were deep and widespread. They are not limited to banks and merchant banks, but also seriously affect other financial institutions, including investment and trust companies; securities firms; leasing, insurance, mutual savings, and finance companies; and credit unions. At the core of the financial sector problem is corporate insolvency. In early 1998, nonperforming

assets were estimated at about 20 percent of financial institutions' total assets. The financial sector is large compared to GDP. Total domestic credit is about 170 percent of annual GDP, implying that nonperforming assets could be more than one third of GDP. Since domestic financial institutions cannot immediately expect substantial foreign investment, and the prospects for raising domestic capital are poor, the Government should provide the resources needed to solve the problem. Otherwise, the credit squeeze and market uncertainty will continue to prevent economic recovery. The Government is committed to contribute about W60 trillion to W70 trillion (about 15 percent of GDP), but this amount is far too small to complete the financial restructuring.

The Government must improve the corporate financial structure. Financial restructuring cannot succeed without corporate debt restructuring. Unless the corporate debt ratio is substantially reduced, financial instability will recur, and resources used to recapitalize the banks will be wasted. The high debt/equity ratio will prevent the country from shifting to a fully market-based financial system. The Government will be forced to continue bailing out troubled firms. Without converting corporate debt into equity, the corporate debt ratio cannot be improved. The Government should, therefore, orchestrate a large-scale debt-to-equity conversion. It should also restructure the financial market; only then can the corporate financial structure be changed. The specifics of the required policies are not explained here. But the equity market has to expand rapidly with the establishment of mutual funds, which can facilitate the conversion of debt to equity. Initially, the Government should support or contribute capital directly to the funds since they may face liquidity problems in the transition period.

Resolving Structural Distortions

Structural problems include (i) distorted relative prices, such as high exchange rate, real wages, rental cost, and interest rates; and (ii) a misguided incentive structure, which led to overinvestment and firms' overly leveraged financial structure. The first problem has been addressed: (i) the overvalued exchange rate has been corrected, (ii) real wages are going down fast, and (iii) property values and rents are gradually declining. Interest rates were very high for a while, but they have settled at near precrisis levels. Relative prices have substantially improved. Although the sharp contraction in domestic demand caused severe cash flow problems, firms' cost structure and export competitiveness have much improved.

However, structural reforms have been delayed. The Government has set a timetable to improve the corporate governance structure, accounting standards, and competition policies. Although some progress has been made in these areas, a clearer and comprehensive plan is yet to be established. It is important that the Government continue to implement the IMF measures on schedule and to strictly enforce the new rules.

Lessons and Concluding Remarks

A combination of factors caused the country's financial and currency crisis. The Southeast Asian financial contagion was the immediate cause, but Korea's own longstanding structural problems, which were incompatible with the liberalized and globalized market environment, were the fundamental causes. The Korean crisis was inevitable in the wake of rapid economic liberalization and opening of the highly regulated economy. The economy has outgrown the old institutions and rules of the game which served it well in the period of rapid economic growth. On top of this were oversight in prudential regulation caused by (i) lack of regulatory responsibility and (ii) inability to check and quickly respond to problems which were, in turn, due to (a) frequent replacement of persons responsible for implementing the policy and (b) inadequate policy response as the crisis approached.[13]

Macroeconomic policy was reasonably sound and macroeconomic performance impressive. But the country had to face the consequences of its failure to deal with longstanding structural problems in rapidly changing internal and external environments. Financial liberalization made corporate financial structure vulnerable as firms increasingly relied on short-term debt. Liberalization of capital transactions, especially of short-term trade credit and bank loans, led to growing term mismatch of banks' foreign assets and liabilities. The regulatory authorities failed to check these developments. In sum, the crisis was caused by the failure to adopt necessary structural reforms and enhance monitoring and supervisory capacity.

The lessons from the financial and currency crisis are summarized below:

- Capital market opening and integration of the domestic into the international capital market weakened the economy because it was already fraught with structural problems. To survive in the international capital market, countries must have not only macroeconomic discipline but also a sound microeconomic foundation. It is risky to fully liberalize domestic financial institutions when their assets are of doubtful quality. In other words, a country about to open its financial market should immediately address its banking and corporate sector problems.
- Even though a country may take a cautious approach to capital market opening, it may face a currency crisis if it does not monitor and regulate the foreign asset and liability structure of its financial institutions. The Government thought it had been cautious: it restricted foreign investment in the domestic securities market in order to limit volatile short-term capital flows, but it did not foresee a crisis due to foreign creditors' refusal to revolve short-term credit to domestic banks. An immediate cause of the currency crisis was the failure to check the term mismatch of financial institutions' foreign assets and liabilities.
- A sustained high interest policy was not a desirable response to simultaneous currency and banking crises. When an economy loses the confidence of foreign investors and creditors and faces a currency crisis, a sharp hike of domestic interest rates is the surest way to discourage foreign investment. Although a policy of temporarily high interest rates may prevent massive capital outflow and exchange depreciation, it is costly. Alternatives are (a) implementing temporary exchange control or (b) postponing exchange control while keeping interest rates at a moderate level. A country in severe financial and currency crisis suffers a sharp fall in domestic investment and consumption demand. High interest rates increase banks' nonperforming assets, raise the ultimate cost of financial restructuring, and discourage potential foreign investors. Korea might have done better if it had maintained exchange control on the outflow side for a while (to prevent capital flight or conversion of deposits into dollars) and lowered interest rates. Then the international community may have helped reschedule short-term debt.

The Korean economy is going through a process of comprehensive economic adjustment under the IMF program. The speed of its recovery from the crisis will depend on how quickly the authorities deal with the structural root causes of its financial and corporate sector problems and with the external economic environment. The challenges facing the economy are as formidable as its financial and longstanding structural problems.

Notes

[1]$21 billion from the IMF, $10 billion from the World Bank, $4 billion from the Asian Development Bank, and the rest from bilateral loans.

[2]See Cho and Kim (1995) for details of financial sector policies and the industrialization process.

[3]See Cho and Hellman (1993).

[4]See Cho and Kim (1995) for a comprehensive discussion of Korean credit policy and industrialization.

[5]See Cho and Kim (1995).

[6]See Cho (1998) for a more detailed analysis of structural problems.

[7]Firms are allowed periodic revaluation of their assets.

[8]Rivalry among chaebol was a factor that caused competitive entry into certain key industries, such as automobiles, contributing to overcapacity build-up.

[9]Until recently, the monetary aggregates subject to control by the monetary authority were M2 and M2 plus certificate of deposits which did not include CP.

[10]Strong foreign pressure, especially from the US, and Korea's ambition to join OECD forced the Government to accelerate the deregulation of foreign equity investment.

[11]Maeil Business Newspaper.

[12]High interest rates attracted little foreign investment in domestic fixed-income assets.

[13]In 1995-1997, six director-generals in charge of the International Banking and Finance Department of the Ministry of Finance and Economy were replaced.

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Appendix

Financial Liberalization in the 1990s

Liberalization of Interest Rates

The Government announced a four-stage plan for interest rate deregulation in 1991. In the first stage, most of the short-term lending rates of banks and nonbank financial institutions (NBFIs) were deregulated, while deposit rate liberalization extended only to deposits with maturities of at least three years. Interest rates on various money and capital market instruments, including issue rate on corporate bonds with maturities of over two years, were also liberalized.

The second stage, undertaken in 1993, covered all lending rates of banks and NBFIs, excluding loans financed by the Government or by the Bank of Korea's (BOK's) rediscounts. It also freed long-term deposit rates with maturities of two years or more, and the issue rates of all bonds, including financial debentures.

Part of the third stage was implemented ahead of schedule in 1994 (instead of 1995) when the minimum maturities of certificates of deposits (CDs), large-value repurchase agreements (RPs), and commercial paper (CP) were shortened. At the same time, rates on deposits with maturities of at least one year and rates on loans refinanced by BOK were liberalized. In 1995, rates on loans supported by the central bank's rediscounts were completely freed up, and deregulation of rates was extended to all deposits except demand deposits.

The last phase of the plan was implemented in July 1997. Currently, all lending rates and most rates on deposits apart from demand deposits are determined freely by financial institutions themselves.

Reduction of Entry Barriers

Entry barriers and restriction on business scope have also been steadily eased. Furthermore, the legal and institutional environment has been improved in order to encourage mergers of financial institutions.

Under the Act Concerning the Merger and Conversion of Financial Institutions in 1991, eight investment and finance companies were converted into five securities companies and two nationwide commercial banks—Hana Bank and Boram Bank. Peace Bank, the 14th largest nationwide commercial bank, was established in 1992. Provincial investment and finance companies were allowed to convert themselves into merchant banking corporations in 1994. The Citizens National Bank, a specialized bank, became a nationwide commercial bank and was renamed Kookmin Bank in 1995.

Strengthening Managerial Autonomy

Financial institutions now exercise managerial autonomy and are free to (i) select their chief executive officers, (ii) increase their capital, (iii) set dividends, and (iv) establish branches.

Business areas handled by financial institutions were enlarged. In 1990, banks' securities business was expanded to include sales of corporate bonds under repurchase agreements. Banks were allowed to act as lead underwriters for Government and public bonds in 1993, and to sell "cover bills," issued on the basis of underlying primary bills, in 1994. Banks and life insurance companies were permitted to sell Government and public bonds over-the-counter while securities companies were authorized to handle foreign exchange business within certain limits in 1995.

To promote financial intermediaries' autonomous operation of their funds, policy-based loans to specific sectors, such as export industries and small and medium enterprises, have been phased out. The overall credit control system, which requires that the ratio of a bank's loans to major business groups to its total loans does not exceed the ratio set by the Superintendent of Banks, has also been greatly streamlined.

Liberalization of Foreign Exchange

A major step forward in foreign exchange liberalization was the introduction of a market average foreign exchange rate system in March 1990. It was

adopted to eliminate any arbitrary Government influence in the determination of foreign exchange rates. Under the system, the exchange rate of the won against the dollar (market average rate) was determined by the weighted average of the interbank exchange rates applied in interbank spot transactions of the previous business day. The won exchange rates against foreign currencies other than the dollar were arrived at by arbitrating between the dollar rates of foreign currencies in the international markets and the market average rate.

On 1 July 1991, the Government eased the requirement that foreign exchange transactions be supported by documented underlying real demand. The move was meant to reduce exchange risk and develop the foreign exchange market.

A foreign currency call market was set up in December 1989, initially for trading only in dollars. It was expanded to include the yen in March 1991, the deutsche mark in September 1992, and the UK pound sterling in November 1994.

In a particularly significant development, a completely revised Foreign Exchange Management Act was passed in December 1991, changing the basis for regulation from a positive to a negative system. Under the positive system, all transactions, apart from those expressly permitted by law, were prohibited. In contrast, under the negative system, all activities are permitted except those explicitly prohibited by law. The adoption of the negative system facilitated the elimination of many restrictions.

Progress was also made in the internationalization of the won. Won settlement was allowed to a certain extent for the export or import of visible items. "Free won" accounts for nonresidents were introduced in 1993.

In June 1994, the Government took another step toward full foreign exchange liberalization. It trimmed the negative list for current transactions and also facilitated direct outward investment. The Foreign Exchange Reform Plan unveiled by the Government in December 1994 laid out a detailed schedule for (i) decontrol of current account transactions, (ii) liberalization of capital account transactions, and (iii) reform of the foreign exchange market structure, among others. As the key macroeconomic indicators, such as money supply and exchange rate, remained stable during the first phase of the plan, the Government revised and supplemented the plan to intensify its promotion of economic globalization in November 1995.

The Government further accelerated financial market opening when it joined the Organisation for Economic Co-operation and Development (OECD). For instance, it had scheduled liberalization of foreign exchange and capital account transactions to the level of advanced countries by 1999. Under the IMF program, however, it abolished capital control.

Capital Market Opening

In the 1990s, capital market opening was accelerated. Branches of foreign securities companies and joint venture securities companies were permitted on a reciprocal basis in 1991, while greater access was given to international investment company funds, and major Korean companies were allowed to undertake more issues of convertible bonds and similar securities overseas.

Beginning 16 September 1991, nonresidents who had exchanged convertible bonds into stocks were permitted to sell them and use the proceeds to purchase other stocks listed on the Korea Stock Exchange. Domestic institutional investors were also allowed to invest in securities issued by foreign governments and public organizations with a high credit standing. Securities investment trust business and investment advising were opened to foreigners in 1993.

Most notably, the stock market was liberalized. Foreign investors were allowed to invest directly in Korean stocks in 1992, subject to a general ceiling on total foreign holdings of any one company's outstanding shares. The ceiling was raised several times until it reached 55 percent at end-1997, and it was finally abolished by end-1998, according to the IMF program.

The opening of the bond market has been rather slow due to the large gap between domestic and international interest rates. In 1994, foreigners were permitted to purchase Government and public bonds issued at international interest rates in the primary market and equity-linked bonds issued by small and medium-size enterprises. Bond investment funds were set up in 1995 to give foreign investors greater indirect access to the bond market.

To counterbalance the opening of the domestic market, residents were allowed to invest in overseas securities indirectly through beneficiary certificates in 1993, and the ceiling on domestic institutional investors' overseas portfolio investment was abolished in 1995.

International organizations were permitted to issue won-denominated bonds in the domestic market in 1995. In January 1997, foreigners were allowed to purchase nonguaranteed long-term bonds issued by small- and medium-size enterprises, and, in June, nonguaranteed convertible bonds issued by large companies. In December, the opening of the bond market was accelerated under the IMF program. The ceiling on foreign holdings of bonds, including corporate and Government bonds, was abolished on 30 December.

Entry of Foreign Financial Institutions

Foreign bank branches increased rapidly in number and scale during the 1970s and 1980s, due partly to their economic advantage over domestic commercial banks. As of 1998, there were 68 foreign bank branches and 23 representative offices from 19 countries in Korea.

The Government originally encouraged the entry of foreign banks mainly to promote the inflow of foreign capital needed to finance industrial development and the current account deficit. However, as the importance of foreign capital inducement has decreased in recent years, foreign banks are expected to take on increasingly diverse roles, including that of an innovator introducing advanced banking techniques into the Korean financial sector.

Discriminatory restrictions on operations of foreign bank branches have been progressively scaled back. Foreign banks can expand their lending if the Government authorizes increases in their operating funds, upon which lending limitations are based. The upper limit on their "capital A funds" was abolished in May 1991.

Foreign banks have also been granted access to the central bank's rediscount window on the same terms as domestic banks, and permitted to issue negotiable CDs and to engage in the trust business. The ceiling on CD issue, which was gradually raised in September 1986, was finally phased out in February 1997.

BOK has continuously eliminated discrimination against foreign banks in the call market. Along with this, it has also been reducing special privileges given to foreign banks. It gradually decreased the ceiling on swap facilities in 1986 and stopped granting them to foreign bank branches established after 1988. In 1996, it further lowered the ceiling on swap facilities by 10 percent. All preferential treatment will be abolished in the long term.

In March 1985, the Monetary Board stipulated that foreign banks should extend at least 25 percent of the increment in their won lending of banking funds to small and medium-sized firms. For foreign banks that use the central bank's rediscount facilities for commercial bills, the mandatory ratio was increased to 35 percent in August 1986.

Foreign banks are allowed to compete with domestic banks on an equal footing. The economic-needs test, once used to evaluate foreign financial institutions' branch opening applications, was abolished.

Two or more branches operated by a single foreign bank are deemed a single entity within the meaning of the General Banking Act of 1991. Foreign banks with multiple branches were thus given much greater flexibility in their business, such as in management of CD issuance within the authorized limits. Foreign banks and securities companies can set up subsidiaries in Korea beginning March 1998.

Table A1: **Macroeconomic Conditions Under the IMF Program**

Date of Program	Fiscal Deficit (% of GDP)	Money Growth (M3) (W trillion) (% change year-on-year)	Current Account ($ billion)	Foreign Reserve ($ billion)	Inflation (%)	GDP Growth Rate (%)
3 Dec 1997	0.8 or Small surplus	71 at end-Dec 1997 (Reduction from an estimated 16.4% at end- Sept 1997 to 15.4% at end-Dec 1997, and to a rate consistent with the inflation objective in 1998)	4.3 (1.0% of GDP) in 1998 2.1 (0.5% of GDP) in 1999	21 (End-Sep 1998)	5.0 (1998) 4.6 (1999)	3.0 (1998) 5.6 (1999)
7 Feb 1998	0.8	72 in the first quarter of 1998 (13.5%) 75 in the second quarter (14.1%) 77 in the third quarter (13.9%) 79 in the fourth quarter (12.5%)	8 (2.5% of GDP)	30 (End-Dec 1998)	9.0	1.0 (zero or negative growth is possible)
2 May	1.2 (1.75 will be permitted)	Same as in February	21-23 (7% of GDP)	32 (end-June 1998) 34 (end-Sep) 41 (end-Dec)	below double digits by yearend	1.0
29 July	4.0	78 in the third quarter of 1998 (14.0%) 79 in the fourth quarter (13.5%)	33-35	End-Dec target is same as that of May (but projected to be 43)	9.0	4.0

Source: Ministry of Finance and Economy.

Structural Reform Measures

INITIAL PROGRAM: DECEMBER 1997

Trade Liberalization

A timetable will be set in line with World Trade Organization commitments to eliminate (i) trade-related subsidies, (ii) restrictive import licensing, and (iii) the import diversification program. Steps will be taken to streamline and improve the transparency of import certification procedures.

Capital Account Liberalization

Foreign financial institutions will be allowed to participate in mergers and acquisitions of domestic financial institutions in a friendly manner and on equal footing. By mid-1998, foreign financial institutions will be allowed to establish bank subsidiaries and brokerage houses.

Legislation will be submitted to the first special session of the National Assembly to harmonize the regime on equity purchases with OECD practice.

The ceiling on aggregate foreign ownership of listed Korean shares will be increased from 26 to 50 percent by end-1997 and to 55 percent by end-1998. The ceiling on individual foreign ownership will be increased from 7 to 50 percent by end-1997.

By end-February 1998, other capital account transactions will be liberalized by (i) easing foreigners' access to domestic money market instruments and the corporate bond market and (ii) simplifying the approval procedure for foreign direct investment.

A timetable will be set by end-February 1998 to eliminate restrictions on foreign borrowing by corporations.

Corporate Restructuring

Corporate balance sheet transparency will be improved by enforcing accounting standards in line with generally accepted accounting practices. The commercial orientation of bank lending will be fully respected and the Government will not intervene in bank

management and lending decisions. To strengthen market discipline, bankruptcy laws will be allowed to operate without Government interference.

The "real name" system in financial transactions will be maintained, although with possible revisions. By late 1998, the restructuring of corporate finances will be encouraged by, among others, (i) reducing the high debt-to-equity ratio of corporations and (ii) changing the system of cross-guarantees within conglomerates.

Financial Sector Restructuring

Legislation will be enacted to (i) set up a strong and independent supervisory agency, (ii) strengthen and consolidate prudential supervision, and (iii) increase transparency.

Time-bound action plans will ensure that there will be (i) an orderly exit of nonviable institutions, (ii) procedures and policies to deal with weak but viable financial institutions, and (iii) measures to improve the commercial orientation and risk management of the financial sector.

The National Assembly should pass the following:

- A revised Bank of Korea Act, providing for central bank independence, with price stability as its main mandate.
- A bill to consolidate supervision of all banks, merchant banks, securities firms, and insurance companies into one agency with operational and financial autonomy.
- A bill requiring that corporate financial statements be prepared on a consolidated basis and certified by external auditors.

Troubled financial institutions will be restructured and recapitalized within a specified time frame. The exit strategy will (i) require troubled institutions to present a viable rehabilitation plan and (ii) close insolvent financial institutions and those failing to carry out their rehabilitation plans within specified periods.

Domestic and foreign institutions may engage in mergers and acquisitions.

A timetable will be set for all banks to meet or exceed Basle standards.

All forms of assistance to banks, including that coursed through the Korean Asset Management Corporation (KAMCO) and deposit insurance funds, will be provided only as part of viable rehabilitation plans.

Blanket guarantees will be phased out and replaced by a limited deposit insurance scheme.

Merchant Banks

The foreign exchange operations of nine technically insolvent merchant banks will be transferred to other institutions. (The banks were suspended on 2 December 1997, with depositors fully protected.)

The consolidated deposit insurance corporation will issue bonds to raise the funds needed to meet the deposit insurance obligation. The Government will guarantee these bonds and bear the interest costs.

The Government announced that it would propose amendments of laws to allow foreign financial institutions to participate in mergers and acquisitions of domestic financial institutions. Foreign participation in merchant banks is allowed up to 100 percent.

The Government did the following:

- It immediately placed the nine suspended merchant banks under the control of the Ministry of Finance and Economy (MOFE) and required each to submit a rehabilitation plan within 30 days. If MOFE fails to approve such plan, the institution will have its license revoked and will not be eligible to participate in the KAMCO program of bad-asset purchase or receive any financing from the deposit insurance fund.
- It monitored the banks' rehabilitation in close consultation with IMF. If the head of the supervisory authority concludes that rehabilitation has not been successful within three months, the institution will be closed.
- It required the remaining merchant banks to present by 31 December 1997 a program of recapitalization or downsizing that will allow them

to meet at least a 4 percent capital requirement ratio by 31 March 1998, 6 percent by 30 June 1998, and 8 percent by June 1999. Failure to obtain supervisory approval of the program or to meet the schedule will lead to suspension of their foreign exchange business and possibly revocation of their license.

- It required the two distressed commercial banks to prepare a plan to meet the Basle capital standard within four months after approval of the plan. It required other commercial banks to make full provisioning for their impaired assets and for their securities losses by end-March 1998. The banks will agree on a timetable with the supervisory authority by June 1998 to achieve current minimum capital standards within a time frame of six months to two years.
- It required that the rehabilitation plans submitted by financial institutions to supervisory authorities should (i) specify the sources and amounts of new capital, a clear schedule to meet Basle capital adequacy standards and provisioning requirements, and confirmation from the supplier of funds; (ii) indicate changes in management and ownership; and (iii) present a business plan.

The Government proposes to do the following:

- In consultation with IMF, it will prepare a comprehensive action program to strengthen financial supervision and regulation in accordance with international best-practice standards.
- It will subject specialized banks and development institutions to the same prudential standards that apply to commercial banks and require external audit on their financial statements.
- It will closely monitor Korean banks' overseas branches' borrowing and lending activities to ensure that they are sound. New injections of foreign exchange by BOK to Korean commercial banks or their overseas branches will carry a penalty rate of 400 basis points above the London interbank offered rate. BOK's deposits with nonresident branches and affiliates of domestic financial institutions will not be increased after December 1997, but will be reduced gradually as soon as circumstances permit.

Table A2: Monetary Sector Indicators

Outstanding stock	Limit (W trillion)
Net domestic assets[a]	
End-September,1997	1,721
End-December,1997 (performance criterion)	10,950
Percentage change	536%
Reserve money	
End-September 1997 (actual)	22,275
End-December 1997 (indicative limit)	23,270
Percentage change	4.5%
Broad money (M3), 1996	614,961
End-September 1997 (projected)	688,760
End-December 1997 (indicative limit)	709,775
Percentage change (from 1996 to end-Dec 1997)	15.4%

[a] Net domestic assets are defined as the difference between reserve money and the won equivalent (converted at program exchange rates) of net adjusted international reserves as defined in the program.
Source: Ministry of Finance and Economy.

- It will adjust the ceiling on net domestic assets and the indicative limit on reserve money to comply with required reserve ratios.

Table A3: Net International Reserves of the Bank of Korea

Item	Floor ($ billion)
End-September 1997 (actual)	21.1
End-December 1997 (performance criterion)	11.2
Percentage change	(46.9%)

( ) = negative value
Source: Ministry of Finance and Economy.