

# **SOUTH KOREA'S EXPERIENCE WITH INTERNATIONAL CAPITAL FLOWS**

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South Korean economic performance over the last four decades has been nothing short of spectacular. During this period the country experienced only two years of negative growth—1980 in the wake of the second oil shock and the assassination of President Park Chung-hee, and 1998 in the midst of the Asian financial crisis (Figure 1). Between the initiation of a wide-ranging economic reform program by Park in 1963 and the financial crisis in 1997, real per capita income growth measured in purchasing power adjusted terms averaged more than six percent annually, and per capita income stood at more than eight times its level when reforms began. According to the Penn World Tables, at the start of that period the country's income level was lower than that of Bolivia and Mozambique; by the end it was higher than that of Greece and Portugal.<sup>1</sup>

Most economists would probably subscribe to the rough notion that more complete markets are preferable to less complete markets. In the case of financial markets, there is a large theoretical and empirical literature supporting the notion that the development of local financial markets and their integration into international markets encourages a variety of desirable outcomes. Yet during its period of rapid growth, South Korea deliberately eschewed the purported gains of international financial integration and instead maintained extensive controls on international capital flows as part of a more general policy of financial repression undertaken in the context of a state-led development strategy. In other words, rapid sustained growth occurred in the presence of capital controls for a period of several decades. This is not to argue that capital controls

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<sup>1</sup> South Korea was “deceptively poor” in the 1950s, in that per capita income was unusually low relative to human capital (Noland and Pack 2002 Table 2.1), a situation presumably explained in large part to the destruction of the much of the physical capital stock during the Korean War (1950-53). That said, South Korea also accumulated human capital extremely rapidly relative to other large developing countries of that era (Noland and Pack 2002 Figure 2.3).

were causal: this paper will not speculate on the counterfactual of what South Korean economic performance might have been under a different policy package, but will simply acknowledge that this period of rapid growth coincided with the existence of capital controls, and that these controls and the de-linking of domestic and international financial markets was an essential component of the country's state-led development strategy.

Problems arose as the country approached the international technological frontier and opportunities for easy technological catch-up began to erode. The disappearance of straightforward paths for industrial upgrading based on imitating the prior trajectories of more advanced economies put a heightened premium on the ability of corporate managements and their financiers to discern emerging profit opportunities. The old development strategy was no longer adequate, but decades of state-led growth had bureaucratized the financial system and created a formidable constellation of incumbent stakeholders opposed to liberalization and transition toward a more market-oriented development model. As rents dissipated, both financial and non-financial firms scrambled to claim the dwindling low-hanging fruit.

Under these conditions, the liberalization undertaken in the early-1990s was less a product of textbook economic analysis than of parochial politicking. A combination of South Korean policy, its accession to the OECD, and the Basle accords on capital adequacy created unintended incentives for short-term bank borrowing. The highly leveraged nature of the South Korean economy, together with the currency and term mismatches embodied in the mid-1990s surge of foreign debt exposure, left the economy vulnerable to a variety of negative shocks, and in 1997, in the context of the broader Asian upheaval, South Korea experienced a financial crisis with net clean-up costs that

eventually amounted to 16 percent of 2001 GDP.<sup>2</sup> The South Korean case is interesting precisely because it combines in an unparalleled manner the characteristics of sustained success, capital controls, and financial crisis.

To preview the conclusions of this paper, capital controls were a necessary component of the state-led development process. The problem is that it is difficult to transition out of the state-led model—interventions create their own constituencies, and the 1990s liberalization was a function of political competition among domestic financial and corporate institutions over declining rents and foreign financial service providers seeking to enter the South Korean market.

Two concerns were expressed contemporaneously in South Korea about capital account liberalization—that it would adversely affect incumbent South Korean financial services firms and that it could be macroeconomically destabilizing. Systemic risk was sufficiently high that South Korea might well have experienced a financial crisis regardless of capital account liberalization; the liberalization program affected the timing, magnitude, and particulars of the crisis.

The degree of financial market integration between South Korea and the rest of the world is considerably higher as a result of the crisis-driven removal of capital controls. Yet the “dumbing down” of the financial system produced by decades of financial repression may have left lingering effects. South Korea seems to have emerged from the crisis relatively successfully but concerns remain, largely centering on the apparent difficulty of changing the lending culture of until recently bureaucratized

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<sup>2</sup> In these regards, the South Korean case is similar to those of Japan and Taiwan that also combined state-led growth and capital controls, and in the 1990s experienced financial crises costing double-digit shares of GDP.

financial institutions and the counterpart challenge of improving the quality of market-oriented financial oversight by regulators more experienced in systems of greater direct command and control. In the specific historical and political circumstances of South Korea, whether the use of capital controls could have been separated from the more general policy of financial repression and more dynamic domestic financial markets fostered in their presence is an open question.

## HISTORICAL CONTEXT

South Korea inherited a legacy of financial repression from Japanese colonial occupation (1910-1945) that carried into the period of independence (1948), reflecting the dirigiste character of Japanese colonial administration and the continuation of extensive controls by the US military authorities in the immediate post-war period. A continuing theme throughout South Korean economic history has been the critical role of the state, its role in the generation of rents, and the politicization of their distribution, starting with the first post-colonial president of South Korea, Rhee Syng-man, who exploited the policy-generated rents to build political power.<sup>3</sup> According to Cho (1994), South Korean economic policy was aimed at maximizing the value of American aid in the aftermath of the Korean War (1950-53) that had left the country devastated and the ensuing Cold War standoff. Aid financed most of capital accumulation and, at its peak in the late 1950s, more than half of imports (Figure 2).

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<sup>3</sup> See Cargill (1999) for a comparison of the Japanese and South Korean financial systems. See Jones and SaKong (1980) and Woo (1991) for examples of the use of state-derived rents for political power building.

A military government led by General Park Chung-hee took control in 1961. As shown in Figure 3, when Park seized power, gross domestic saving net of aid was derisory. Gross investment, financed mostly by aid, stood at a bit more than 10 percent of GDP and the current account was in rough balance. After two years of poor economic performance, the military government unified the existing multiple exchange rate system, devalued the currency, and initiated a series of wide-ranging reforms. After a brief experiment with floating, the currency was pegged to the US dollar and would remain so until 1980 (Koo and Park 1990). Domestic saving net of aid began rising rapidly (looking at Figure 3 one can understand why development economists adopted Rostow's take-off metaphor). Domestic investment began rising even faster.

While in some ways Park's reform package marked a fundamental departure from past practices (with respect to trade policy, for example), it retained an important role for the state in the development process. Pervasive regulatory entry barriers (and thus protection from competition for incumbents), and Park's penchant for sole-sourcing important infrastructural and other large-scale government supported projects, in effect socialized risk and created opportunities for cross-subsidization across different business ventures, encouraging the *chaebol* (family-dominated conglomerates) to diversify into otherwise unrelated lines of business. By the 1980s, the top 10 *chaebol* accounted for more than 20 percent of national income (SaKong 1993 Table A.20). Bank of Korea independence was ended and the Bank made subservient to the Ministry of Finance and, ultimately, the Blue House.

The accumulation of capital contributed to rapid technological upgrading and a stunning transformation of the composition of output. In 1963 non-fuel primary products

accounted for more than half of South Korea's exports, and human hair wigs were the third leading item. A decade later South Korea's exports were dominated by manufactures such as textiles, electrical products, and iron and steel; only one primary product category, fish, made the top ten. As seen in Figure 3, capital accumulation was financed primarily by growing domestic saving, augmented by a significant inflow of saving from abroad, nearly reaching 10 percent of GDP in 1971, and actually breaching this threshold in 1974 after the first oil shock.

These inflows predominately took the form of long-term loans and trade credits from private lenders and public institutions (including the multilateral development banks) all subject to Bank of Korea regulation (Figure 4). Portfolio inflows and inward foreign direct investments were negligible during this period. A substantial academic literature exists (e.g. Westphal, Purcell, and Rhee 1981, Westphal, Kim, and Dahlman 1985) that attempts to understand the sources of South Korean industrial competence and that documents the varied forms of technological transfer and interaction between South Korean and foreign firms. Figure 4 indicates that whatever the origins of South Korean technical mastery, much of the foreign capital arrived in the form of technologically disembodied loans.

In 1972, Park, who had been reelected for a third term, pushed through the *Yushin* (Revitalization) Constitution that in essence made him president-for-life. For a variety of reasons, he initiated the intensive promotion heavy industry through what came to be known as the Heavy and Chemical Industry (HCI) policy. Modest financial sector liberalizations that had been undertaken in the late 1960s were reversed in 1972, when interest rates were lowered and direct government control of the banking system was

increased in order to channel capital to preferred sectors, projects, or firms (Figure 5). In order to finance large-scale projects, special public financial institutions were established, and private commercial banks were instructed to make loans to strategic projects on a preferential basis. By the late 1970s, the share of these “policy loans” had risen to 60 percent (Yoo, 1994). These loans carried, on average, negative real interest rates, and the annual interest subsidy grew from about 3 percent of GNP in 1962-71 to approximately 10 percent of GNP on average between 1972 and 1979 (Pyo, 1989).<sup>4</sup> With such a large share of national income at stake, the allocation of these highly subsidized loans became the focus of intense political activity.

Park was assassinated in 1979 during what amounted to a palace coup. General Chun Doo-hwan and his fellow officers more or less stumbled into power, driven more by intra-military rivalries and narrow career interests than by any real sense of where they wanted to take the country (Clifford 1997). Facing deteriorating economic performance, exacerbated by the second oil shock, Chun and his cronies turned to Western-trained economic technocrats, who were already attempting to introduce a stabilization policy and reverse the worst excesses of the HCI policy, to fix the economy and shore up the generals’ political legitimacy.<sup>5</sup>

Despite at times carrying a large volume of fixed-interest loan debt, South Korea managed to avoid financial trouble until the early 1980s slowdown in global growth in

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<sup>4</sup> The definition of “policy loans” is imprecise and various sources report significantly different figures. See Cho (1994) for discussion, and see SaKong (1993 Tables A.18 and A.19) and Krueger and Yoo (2002) for alternative calculations.

<sup>5</sup> Chun literally scheduled early morning tutoring sessions. Perhaps there is something peculiarly Korean about this: it is hard to imagine the typical military dictator staying up late to study for his daily economics lesson.



the wake of the second oil shock. The external shocks that hit South Korea during the period 1979-1981 were actually larger than those experienced by a number of other countries discussed at this conference, including Argentina, Brazil, Chile, and Mexico (Balassa 1985 Table 1). Although external debt and debt service ratios had increased substantially in the late 1970s, South Korea was able to re-attain high sustained growth by 1983, more rapidly than its comparators, through a combination of a reduction in imports associated with a sharp, though brief, decline in income, together with real exchange rate depreciation achieved through a 20 percent nominal devaluation. (The currency had also been devalued by 20 percent in 1974 following the first oil shock.) This pattern of relatively a sharp income decline and real depreciation followed by rapid recovery was to be repeated in the 1997 crisis (Lee and Rhee 2000). The technocrats around Chun implemented a policy of macroeconomic stabilization through which they began to liberalize and deregulate the South Korean economy. A liberalization of the financial sector initiated under the Fifth Five-Year Plan (1982-86) and extended under the Sixth Five Year Plan (1987-91) attenuated “policy lending.”

### *Domestic finance*

The capital channeling development strategy pursued up through the 1980s rested on the twin pillars of financial repression and capital controls to de-link the domestic and international financial markets. The government had to limit capital markets to institutions that could be dominated if not controlled, and it had to limit the firms’ financing options to those institutions. At the core was a positive list system through

which anything not explicitly permitted was prohibited. This hampered the introduction of new instruments throughout the financial sector. In practice this meant emphasizing indirect finance and maintaining limitations on foreign participation in financial markets and domestic firm access to foreign capital. Presumptively less compliant foreign banks could not be allowed into the market in any significant way, for if they were allowed to establish a significant presence, they would undermine domestic banks operating under the burdens of “policy lending.”<sup>6</sup> Thus the financial system had to be built around a relatively small number of South Korean banks and corporate finance had to be largely limited through regulatory fiat and tax provisions to borrowing from those intermediaries.

Alternative sources of corporate finance were suppressed: the development of money markets and bond markets was retarded and restricted to a limited range of maturities with no real secondary markets, and issuance was effectively dependent on bank-guarantees. The government discouraged the development of an efficient auction and secondary market for government bonds, and no swap, bond or interest futures markets existed. As for the stock market, in 1990 the government established a quarterly quota on new issues, and prior to the 1997 crisis, a backlog of more than 360 companies was waiting to be listed (relative to the 776 that were already on the exchange). Criminal proceedings documented how firms were forced to resort to bribing officials to bring

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<sup>6</sup> In the characterization of one South Korean economist “Dominance of the Korean financial market by foreign institutions were abhorred, as it would deprive authority over various instruments of monetary control, weaken many customary, informal practices associated with industrial policy, and might also alter the public-good nature of the financial system” (Lee 1993 7).

their initial public offerings to the market.<sup>7</sup> As a result of these policies, corporate capital sourced through bank loans exceeded equity, bonds, and commercial paper combined until the late 1980s and indirect finance from all sources was the primary form of corporate finance until 1991 (Cho 2002 Table 4).

There were multiple implications of these policies. First, the firms emphasized growth, not profitability, since risk was socialized and increased borrowing made further borrowing advantageous under the “too big to fail” notion, promoted by the government’s habitual interventions. From the standpoint of a lender, the bigger the firm, the more credit-worthy the firm, since size increased the likelihood that the government would intervene in the event that the firm got into financial trouble, which it did on a fairly routine basis. The implication was that firms became extraordinarily leveraged as growth became the name of the game.<sup>8</sup> Loans were the mechanism for growth and, paradoxically, debt signaled credit-worthiness, a state of affairs that Yoo (1999) described as the “survival of the fattest.” Indeed, one study of corporate finance covering the decade 1977-1986 found that “the largest firms have the weakest financial structure,” as measured by the degree of equity in their capital structures (Kim 1990, 342), while another found that the major *chaebol* were systematically less profitable than other South Korean firms (Krueger and Yoo 2002). A corollary to this system of corporate financing was the encouragement of extensive cross-shareholding, cross-loan guarantees, and non-

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<sup>7</sup> In June 1996, the governor of the Securities and Exchange Commission (SEC) and a director of the MFE were arrested for taking bribes to get firms listed. Six other SEC executives were forced to resign.

<sup>8</sup> In July 1997, just prior to the crisis, the average debt-equity ratio of the thirty largest *chaebol* exceeded 400 percent (Yoo 1999 Table 9). By the end of 1997, it stood at 500 percent, and 600 percent of the debt of subsidiaries was included on a consolidated basis (Claessens, Ghosh, and Scott, 1999). See also Krueger and Yoo (2002) Table 6.

transparency, all of which served to facilitate borrowing and had the effect of disadvantaging outside shareholders.

### *Capital Controls*

Comprehensive capital controls were used to insulate the domestic financial market from the global market.<sup>9</sup> Inward remittances were monitored to impede unauthorized foreign exchange transactions and inward investments. Inward FDI was discouraged by permitting entry only into a limited range of sectors, imposing minority ownership requirements, requiring technology transfer (in the absence of any intellectual property rights enforcement), and imposing strict export requirements. And while there were modest relaxations beginning in the late-1970s, actual FDI inflows remained minuscule until a wide-ranging liberalization was undertaken in response to the 1997 crisis (Figure 4). On the eve of the crisis, South Korea and India were the only countries in Asia where the dominant modality of US foreign investment was minority-stake joint ventures, as opposed to majority-stake joint ventures or wholly owned subsidiaries.

Stock market investment by nonresidents was prohibited until 1992 and then subject to stringent quantitative ceilings.<sup>10</sup> At the time of the 1997 crisis, foreign

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<sup>9</sup> See Linder (1994) and Kim, Kim, and Wang (2001) for descriptions. The Appendix contains a detailed chronology of the policies applied.

<sup>10</sup> Initially this was set at 10 percent in January 1992, and subsequently raised to 12 percent in December 1994, 15 percent in July 1995, and 18 percent in April 1996. In June 1996, the government announced a further phased opening that would increase the ceiling to 20 percent in 1996, and three additional percentage points annually thereafter to 29 percent by 1999, and the government added that it might abolish the ceiling entirely in 2000 if “economic circumstances” were appropriate.

ownership of listed companies was limited to 20 percent of capital with individual stakes limited to 5 percent. Investment by nonresidents in domestic bonds was prohibited until 1996, and then subject to quantitative limitations. The local presence and activity of foreign financial institutions were highly circumscribed.

For much of this period outbound investment was similarly restricted. Domestic residents were not permitted to open foreign bank accounts or purchase foreign securities, nor were foreign entities permitted to issue *won*-denominated securities domestically. Export earnings had to be repatriated within six months. Outward direct investment required official approval, and was subject to regulations that had the effect of encouraging the intermediation of South Korean banks.<sup>11</sup>

The local currency, the *won*, was non-convertible and the South Korean government discouraged the development of any offshore market in *won* or *won*-denominated instruments. A rapid real appreciation of the Japanese *yen* beginning in 1985, encouraged a process of relocation of manufacturing activities from Japan to South Korea. The Bank of Korea accommodated the capital inflow and between 1985 and 1989 the money supply increased by 105 percent, the price level rose by 3 percent, and the stock market increased by 458 percent becoming the world's ninth largest in terms of capitalization.

In February 1980, following a 20 percent devaluation the previous month, South Korea moved off a strict dollar peg and began pegging the *won* to a basket of currencies that constituted the Special Drawing Right (whose respective weights in the basket were undisclosed) plus a "policy adjustment" factor. In the words of Jeffrey A. Frankel this

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<sup>11</sup> For example, there were restrictions on firms' ability to issue securities abroad and on contracting foreign loans at rates more than 100 basis points above LIBOR.

was a basket peg “in name only” (Frankel 1993). As observed by Balassa and Williamson (1990) the policy adjustment factor predominated: between 1984 and 1987 the *won* depreciated against all five currencies in the basket, generating an undervalued currency (I. Kim 1993). The IMF was astute enough to classify South Korea’s exchange rate regime as a managed float rather than a basket peg.

The undervalued *won*, relocation of productive activities from Japan to South Korea, and expansionary macroeconomic policies in the US, generated a growing bilateral surplus with the US (Noland 1993). Through the experience of the Yen-Dollar talks, the US political system had become enamored with negotiating with other countries over exchange rate and financial market policies. The US initially sought to use the IMF’s special consultative mechanism to pressure South Korea over its exchange rate policy despite the fact that as late as 1985 the Fund had been advising further depreciation of the *won*. Starting in 1986 the US Treasury began publicly to pressure South Korea to revalue the *won*. Although Japan was the primary focus of the financial provisions of the Omnibus Trade and Competitiveness Act of 1988 (“The Trade Act”), South Korea emerged as a secondary target.

In its first three Congressionally mandated reports under Section 3004 of the Trade Act, the Treasury identified South Korea as an “exchange rate manipulator” removing South Korea from the list in April 1990, after a new exchange rate management system called the market average exchange rate system was introduced. Under this arrangement, the mid-band won-dollar rate was calculated as an average of the previous day’s transactions and then allowed to float within officially prescribed margins around this rate. In 1991 the government began a process of very gradually widening the bands,

with the putative expectation that as the bands were widened a freely floating exchange rate would emerge (B. Kim 1993). Needless to say, things did not work out this way.

The pervasive pattern of government intervention created a symbiotic relationship between the government and the private sector, eroding private sector autonomy and facilitating the corruption of the political system. The move toward more genuine political competition in the late 1980s arguably shifted the balance of power away from the government and toward the private sector, which became the source of badly needed campaign funds (Kang 2002a, 2002b). In the words of one contemporary observer, corruption “exploded” (Clifford 1997). With the exception of current President Roh Moo-hyun, every South Korean President since Park Chung-hee and/or at least one of their sons has been imprisoned on corruption offenses.

#### FINANCIAL LIBERALIZATION IN THE 1990s

Over time, pressure for liberalization developed from both domestic firms disadvantaged in international competition by relatively high domestic interest rates and limited options for corporate finance, and the US government promoting the interests of American financial service providers (Figure 6).<sup>12</sup> The outcome of this tension was a political compromise resulting in a gradual, uneven, and ultimately problematic

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<sup>12</sup> In Figure 6 the interest rate differential is calculated as the difference between yields on South Korean won-denominated 10-year government bonds and US government bonds of the same maturity. If one expected the Balassa-Samuelson effect to hold and the won to appreciate in real terms over the long run then from the standpoint of a South Korean firm, the implicit differential was even larger.

liberalization program that both contributed to and was overtaken by the 1997 financial crisis. (A chronology of policies actually applied is provided in the Appendix.)

The US had begun pressuring South Korea for improved market access for US financial services providers in the late 1980s, initiating a more or less ongoing process of bilateral consultations on the issue of financial market liberalization. The conclusion of the Sixth Five Year Plan (1986-91) provided Treasury officials an opening to talk to their South Korean counterparts about “the vision thing”.<sup>13</sup> Some commentators (Park, Song, and Wang 2003) argue that these discussions formed the basis of the first of a series of multiyear financial sector policy plans, the most important of which was promulgated in 1995 and scheduled to run through 1999 (Kwon 1996).<sup>14</sup> Additional reforms were announced as part of South Korea’s 1996 accession to the OECD, which itself was undertaken for largely politically symbolic reasons by President Kim Young-sam. Nevertheless, there was considerable domestic opposition to these initiatives (from underwriters of domestic securities, for example) and the 1995 plan and South Korea’s application to join the OECD became the focal points in the internal battle over reform (as well as an opportunity for further US government pressure).

The aspects of the plan itself were arguably captured by special interests through corruption. Part of the process of unifying the financial markets had been the

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<sup>13</sup> Wang (1993 186) quotes the November 1991 Treasury report to Congress mandated under Section 3004 of the Trade Act as reading in part “Most troubling at this stage is that the Korean government appears to lack a “vision” and well-defined strategy for the liberalization of its financial markets. [Recent reforms] are steps in the right direction but do not appear to go fast enough...”

<sup>14</sup> American demands for financial market opening are a hardy perennial. Invariant to partisan control of the government, they continue to this day. See Frankel (1989, 1993), Wang (1993), Blustein (2003), Stiglitz (2003), and USTR (2004) for examples.



regularization of curb market lenders as investment and finance companies. The traditional commercial banks began to get squeezed: their share of deposits and lending fell steadily from roughly 80 percent in 1975 to less than 50 percent in 1990. This process accelerated in the mid-1990s when a new class of institutions, merchant banks, with a broader remit than the existing non-bank financial intermediaries was established. Merchant bank licenses were issued in two tranches in 1994 and 1996. The issuance of licenses was dominated by bribery and kickbacks and a later investigation by the Board of Audit and Inspection determined that three of the fifteen merchant banks approved in 1996 were insolvent when the licenses were issued (Haggard 2000). The merchant banks played a significant role in the subsequent crisis both at home and abroad through connected lending to their *chaebol* owners, particularly financing “unviable” investments in steel, automobiles, and chemicals during the mid-1990s investment boom, and reckless investments in Russia and Southeast Asia (Ishii and Habermeier 2002, 69). The commercial banks were experiencing both erosion of market share and margins: in 1996 their share of deposits and lending had fallen to 33 percent and 43 percent, respectively, and returns on assets and equity was declining as well.

Out of the OECD application process came a multiyear, phased, financial liberalization plan to break down some barriers within the domestic market and liberalize capital outflows before capital inflows. The plan amounted to a continuation of the ongoing liberalization process on a variety of fronts, though many of its provisions would leave the government with significant discretion. It was unclear what controls would remain in 1999, the terminal year of the plan. At the end of 1995, domestic market interest rates had largely been freed (indeed, a year ahead of schedule). However, the

government still regulated the portfolios of commercial banks. It still owned a large number of financial institutions (of which the Korea Development Bank was the largest), and state-owned financial institutions dominated some markets (such as mortgage lending). It announced in August 1996 that foreign investors would be allowed to invest in convertible bonds issued by large corporations beginning in 1998, but that full opening of the bond market would be delayed until the differential between Korean and overseas interest rates (at the time 500-600 basis points) narrowed to 200 basis points.<sup>15</sup> Of course there was no guarantee that this condition would ever be met.

Government control over the introduction of new instruments had retarded the adoption of innovations in the securities market, and would be expected to continue to do so under this plan. Despite the decline of policy loans, the central bank would still act as a source of subsidized lending to preferred borrowers. Foreign participation in South Korean financial markets would continue to be circumscribed, and access by residents to international capital markets would still be restricted. Under this plan, the South Korean financial system would have remained among the most repressed in Asia. Reservations to OECD codes are permitted, and the average acceptance rate of financial liberalization codes in the financial services area is 89 percent; South Korea used its exceptions remit liberally, accepting only 65 percent of the OECD's financial system codes (though in fairness, some of these exceptions were scheduled for phase-out by 2000) (Dobson and Jacquet, 1998). A Presidential Commission for Financial Reform was established in

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<sup>15</sup> The *chaebol* had been lobbying to be allowed to access foreign capital directly through the bond market. The government had been reluctant to do so, fearing that this would further advantage the *chaebol* relative to smaller firms which would be less able to take advantage of this opportunity. The banks presumably also preferred to their privileged position as financial intermediaries.

January 1997 to propose broad follow-on recommendations for the modernization of the financial system (Cargill 1999). Needless to say, its recommendations were overtaken by events.

The case for international financial market integration is well-known: the benefits include enhanced opportunities for inter-temporal consumption; greater opportunities for portfolio diversification and risk reduction for both borrowers and lenders; enhanced competition and technology transfer in both financial and non-financial sectors; and a reduction in systemic risk. Conversely, the symptoms of financial repression include low rates of return to savers, banking sector inefficiency manifested by high spreads between lending and deposit rates, poor allocation of funds across alternative uses, politicization of lending decisions, and the existence of large informal and unregulated credit markets (“the curb market”). Financial repression tends to retard the development of the economy by discouraging the accumulation of capital. Savers are offered low rates of return, while firms face a high cost of capital for their investment needs. At the same time financial repression impedes the efficient allocation of what capital is accumulated. Projects are typically not funded according to their rates of return, but rather on the basis of non-economic considerations, which may include political connections or bribery of the relevant officials. The likely result of financial repression is that the total amount of savings is lower than it should be, and the allocation of the total among its possible uses is inefficient. Disequilibrium in the financial markets generates rents that may be allocated through corruption. These distortions become severe when the real economy develops rapidly and profitable real investment opportunities abound, and yet the financial system lags behind. Capital controls act as an implicit tax on holders of government debt. By restricting

international capital flows, the government can in effect force domestic residents to accept government debt at lower interest rates than would be the case if there were no controls on capital.

These arguments are easily applicable to the South Korean case, and indeed supporting evidence could be observed contemporaneously—note that the citations for the next 10 paragraphs all refer to the pre-crisis literature. Opportunities for inter-temporal consumption smoothing could be particularly important for a country like South Korea where the rate of return on capital during this period was quite high (Figure 5) and the economy was subject to major financial shocks such as the need to finance unification (Noland 1996b).<sup>16</sup> With respect to portfolio diversification, during the period under consideration, foreign investment in the South Korean stock market was legally restricted, and in statistical terms it was “mildly segmented” from the rest of the world (Claessen and Rhee 1994; Watanabe 1996). There was even some evidence that the correlation between movements in the South Korean and foreign markets was declining, which would have enhanced the attractiveness of cross-border diversification. Although it was sometimes argued that foreign investment in the stock market amounted to “hot money,” the dominant behavior of foreign investors was to re-invest sales as part of the process of portfolio realignment (Jun, 1995). Giovanni and deMelo (1993) estimate that in the case of South Korea for the period 1975-1987, the “financial repression tax”—the reduction in borrowing costs to the central government generated by capital controls that effectively force domestic residents to invest in local instruments or the implicit tax rate—was more than 5 percent, amounting to 0.25 percent of national income, or 1-2 percent of actual tax revenues.

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<sup>16</sup> See Cho (2002) Figure 1 and Krueger and Yoo (2002) Tables 3 and 4 and Figures 1 and 2 for alternative estimates of rates of return.

Not only were the prospective gains to relaxation capital controls discernable, but the implicit costs were also evident. There were enormous spreads across borrowers, reflecting the segmentation and repression of financial markets (Figure 5). The South Korean financial services sector was bureaucratized, bloated, and backwards. This was reflected in the low average rate of return on bank assets, which was among the lowest of those observed in emerging markets (Goldstein and Turner, 1996, Table 5). The role of foreign firms was highly circumscribed. Given the highly concentrated South Korean industrial structure with respect to both firms (a relatively few firms accounted for a large share of national income) and the composition of output and exports (highly concentrated in a few products such as automobiles and computer chips), systemic risk was a real concern. The situation was exacerbated by a relaxation in 1995 of bank provisioning requirements, and fragmented regulatory authority in which the BOK was responsible for oversight of the commercial banks while “poor supervision [of the merchant banks] by the MOFE created the possibility for regulatory arbitrage and high risk practices” (Ishii and Habermeier 2002, 69).<sup>17</sup> Macroeconomic volatility was higher than in other Asian

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<sup>17</sup> Writing prior to the crisis the present author summarized the situation as follows: “The potential problem with the system is the implicit guarantee that banks not be allowed to fail; this together with deposit insurance, simultaneously creates an incentive for banks to seek risk, while it relieves depositors of the incentive to monitor bank health....Moreover, the Korean definition of bad loans is narrower than that commonly used abroad, and foreign bankers estimate the true bad loan problem may be three times as large as admitted....Concerns about the banking system are further aggravated by the MFE's dual function as a promoter and supervisor of financial institutions, and legitimate questions can be raised about the degree of independence of the regulatory authorities...The bottom line is that Korea should be concerned about the strength of its banking system, and much of this concern is related to domestic financial repression and is unrelated to the issue of external financial liberalization. Market discipline does not work when there is a lack of information, or when the notion that banks cannot fail is widely held. The appropriate responses are to deal with the structural problems of the banking system (which are likely to involve both domestic and international liberalization together with strengthened prudential supervision by public authorities), to strengthen public disclosure requirements, and to signal limits on public bail-outs” (Noland, 1996a, p12-14) [emphasis in the original].

economies, and data from the BIS indicated that the risk-adjusted capital adequacy ratio of South Korean banks was among the lowest of all developing countries (Goldstein and Turner 1996).

South Korean reluctance to deregulate reflected a mixture of motivations. There were two sorts of counterarguments offered in opposition to liberalization. The first was that the South Korean financial service firms simply could not compete. Some South Koreans probably opposed liberalization out of self-interest, since liberalization would erode their privileged position within the South Korean financial system. (Likewise, some foreign calls for opening the Korean financial market were surely motivated by similar self-interest.) For example, Park (1995, 7) argued, “domestic financial institutions have little competitive advantage over their foreign counterparts. At best Korea’s financial sector remains an infant industry and may need market protection.”<sup>18</sup> On some level this was undoubtedly true (and irrelevant): the South Korean banking sector was highly inefficient as could easily be observed at the time, a condition that was subsequently confirmed by the industry’s post-crisis consolidation, which, despite a strong union presence in the industry, was accompanied by a roughly 40 percent decline in sectoral employment and no apparent diminution in service.

A more serious argument was that destabilizing capital flows would create macroeconomic instability. Park and Song (1996, 14) wrote, “Korean policymakers have

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<sup>18</sup> Another South Korean economist wrote “Unless the weakness in domestic financial institutions is improved, financial markets in Korea could eventually be controlled by foreign firms. Fortunately, [under the agreement with the OECD] it is predicted that liberalization of capital movements will not result in foreign control of domestic financial industries. Such prediction is supported by the fact that foreign banks operating in Korea have experienced a decline in their asset size, and foreign insurance firms’ market share is less than one percent...” (Chae 1997 71-2).

been reluctant to liberalize the capital account rapidly. There is concern that devastating macroeconomic instability would result from a sudden opening of financial markets. In contrast efficiency gains to the economy from liberalization are considered to be small, possibly even insignificant, and at best realized in the long-run.” Johnston et al. (1999, 71) write that upon joining the OECD, South Korean government officials expressed their disinclination to ease capital controls further and explicitly stressed that they wished to maintain controls over short-term capital inflows that may “hamper macroeconomic and financial market stability.” A major source of reluctance to remove barriers to capital inflows was the fear that inflows of reserves would increase the money supply excessively and lead to real exchange rate appreciation, either through inflation, or alternatively through nominal appreciation of the currency.<sup>19</sup>

A striking aspect of the South Korean case is that while a variety of policy responses to this concern were suggested, it does not appear that any were seriously considered. One way of avoiding excessive appreciation would have been to continue to sterilize the capital inflows, as South Korean policymakers had done throughout the 1980s and 1990s by forcing domestic financial institutions to purchase Monetary Stabilization Bonds (MSBs) to offset the expansionary impact on the money supply of foreign capital inflows. Indeed, research cited by Park (1995) indicated that the optimal policy from a South Korean standpoint would have been a mixture of exchange rate adjustment and sterilization. Sterilization may have been advisable in the short-run, but it is doubtful

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<sup>19</sup> For example in an NBER paper, Cho and Koh (1996) write that “With the current level of interest rate differentials between Korea and developed economies, drastic full-scale liberalization would certainly induce a large amount of capital inflows and appreciate the Korean won. This would affect the price competitiveness of Korean products in international markets, which could bring about significant macro-instability in an economy like Korea which relies heavily upon external transactions” (p.1).

whether this is a good long-term policy: such a policy generates quasi-fiscal costs as long as the interest rate on the MSBs exceeds the return on holding foreign exchange (in the case of comparable Latin American countries, Leiderman (1995) estimated their annual costs at 0.25 percent to 0.50 percent of national income). In any event, since domestic rates were higher than foreign rates, it would be desirable to reduce domestic rates and obtain the benefits of higher investment and growth.<sup>20</sup> Moreover, as *domestic* financial markets became more complex, the ability of the Bank of Korea to exercise monetary control through administrative guidance and MSBs would be increasingly less possible, underscoring the advisability of developing the capacity for indirect control through open market operations. Another alternative proposed by Dornbusch and Park (1995) was for the government to create a long-term (six years or more) *won* currency bond exclusively for foreigners for use when sterilizing capital inflows.

If it is not possible to adequately sterilize or otherwise offset inflows, and the capital inflows are financing consumption (instead of investment), another response would be to reintroduce some controls on capital inflows, presumably in the form of “Tobin taxes” that would throw some sand in the external financial market wheels.<sup>21</sup> Dornbusch and Park (1995), Park (1995), and Park and Song (1996) devoted considerable effort to thinking about this in the South Korean context. They raised two possibilities, which they appeared to

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<sup>20</sup> Park (1995) suggested central bank swaps as a possible alternative to sterilization. When central bank foreign exchange holdings got too high, the central bank would sell foreign exchange to domestic financial institutions to invest abroad. At the end of a specified time, the swap would be reversed, and the central bank would compensate financial institutions for losses due to interest rate differentials and exchange rate movements. The problem, as in the case of sterilization, is that the quasi-fiscal cost could be high.

<sup>21</sup> If the foreign capital inflows were going into productivity-enhancing investment, the proper response would be to allow the exchange rate to appreciate with productivity gains, and allow the capital inflows to continue.



regard as temporary measures for extreme situations. The first was a variable deposit requirement (VDR), in which reserve or deposit requirements are imposed on capital inflows, with the deposit varying according to type of inflow and investor. It is possible, in principle, that the reserve requirement could be set exactly so that the opportunity cost of the deposit sitting in a non-interest bearing Bank of Korea account could exactly offset the international interest rate differential. Apparently the legal framework existed for the imposition of this deposit requirement, and the existing procedures would make it feasible to impose this on foreigners. The main problem (beyond damage to future credibility with foreign investors) would appear to be that this would also most certainly generate conflicts with foreign governments and investors and, depending on its implementation, possibly amount to a violation of South Korea's WTO commitments. These emergency safeguards were to be explicitly authorized post-crisis in the Foreign Exchange Transaction Act of 1999.

The alternative to controlling quantity (in terms of setting the size of the deposit) would be to control price, and Park and Song raised the issue of a transaction tax, for which, like the VDR, the necessary legal framework apparently already existed. The transactions tax could be confined to capital account transactions, and in principle could be imposed solely on foreigners. Like the VDR, this would surely raise hackles with foreign firms and governments. Moreover, although the *won* could not legally trade outside of South Korea, it is hard to see why interested parties could not simply move their activities offshore and avoid the tax. More generally, the market for the *won* was already relatively thin, and it is not clear that reducing the volume of transactions would be desirable.

Finally, one might fight destabilizing inflows by encouraging outflows. At first blush, encouraging outflows to offset inflows would appear to be the natural response to concerns about excessive net inflows. There are two arguments as to why encouraging outflows may actually exacerbate the problem, however. First, barriers to outflows create an element of irreversibility to foreign investors, and if there is uncertainty about the future conduct of economic policy, then this irreversibility may deter investment. Elimination of irreversibility through the removal of capital controls could reduce foreign investor caution and paradoxically lead to higher net inflows. Second, since barriers to external flows are sometimes maintained to facilitate the collection of financial repression taxes, the removal of the impediments may be regarded as a signal of a lower permanent rate of taxation on capital, and thus can induce capital inflow. It is unclear whether either of these arguments carried much force in the South Korean case.

In any event, South Korean authorities appeared to be proceeding more rapidly with liberalization on outbound flows than on inbound flows. To the extent that one believes that, for conventional portfolio diversification reasons, domestic residents wish to hold foreign currency assets and have been prevented from doing so, the elimination of these impediments would encourage capital outflow. If the fundamental concern about external financial liberalization is that it would lead to destabilizing net inflows, the South Korean policy amounted to firing the guns before the enemy was in sight.

Not only that, the effect of government policy was to encourage those inflows to take the form of short-term lending to South Korean banks. The closure to foreign investors of the long-term corporate bond market created the perverse incentive to raise capital through short-term borrowing. This was significant because South Korean firms

were highly concentrated in relatively footloose manufacturing industries and subject to contentious labor relations at home. As a consequence, South Korean firms began investing abroad at a scale that was unusually large for an economy at its level of income and industrial development.

In 1993, the government expanded the scope for short-term foreign currency borrowing by allowing firms to borrow abroad directly or through South Korean banks to finance the importation of capital goods (Figure 7). With interest rates relatively high in South Korea, and continued restrictions on firms' ability to issue long-term bonds or secure long-term loans in foreign markets still in effect, firms were encouraged to increase their reliance on short-term foreign borrowing and South Korean banks were encouraged to step up their on-lending activities (Figure 8).<sup>22</sup>

The following year, the government removed restrictions on banks' foreign currency loans, resulting in a massive increase in net foreign currency liabilities (Figure 8). Moreover, the Bank of Korea applied window guidance to limit medium- and long-term borrowing on international markets, apparently due to concerns about potential loss of control over domestic financial institutions through debt-equity swaps biasing borrowing toward the short end of the term spectrum (Johnston et al. 1999). Short-term external debt rose from \$40 billion in 1993 to \$98 billion at the end of September 1997, representing more than half of external liabilities and more than three times the amount of foreign exchange reserves (Figure 9). The growth of short-term debt outstripped the growth in usable reserves raising the specter of a liquidity crunch. The ratio of usable

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<sup>22</sup> Further impetus was provided in October 1995 when the government announced that, in the case of direct investments abroad by South Korean corporations of \$100 million or more, at least one-fifth of the funds would have to be raised at home.

international reserves—official reserves less the amount of illiquid funds that had been deposited at overseas bank branches to cover short-term debt repayments—to short-term debt declined from 42 percent in 1993 to 29 percent at year-end 1996 (Chopra et al. 2002).

These “demand-side” factors were reinforced by “supply-side” effects through the Basle Accords. Lending to other OECD banks, irrespective of the term of the loan, is assigned a risk weight of 20 percent in the capital adequacy requirements. However, in the case of non-OECD banks, the assessments vary with the term of the loan: loans of less than one-year duration receive the 20 percent risk weight while those with a duration of more than one year are assigned a 100 percent risk rate. Since all corporate lending receives the 100 percent risk weight, Basle Accord incentives arguably encouraged lending to South Korea to take the form of short-term bank lending, reinforcing South Korean government policy (Johnston et al. 1999). When South Korea joined the OECD, the effect was to reduce the risk premium on lending to South Korea.

The net result was currency and term mismatching on a massive scale. One way of getting a handle on the implications of this is suggested by Goldstein and Turner (2004), who propose an aggregate effective currency mismatch measure—the net foreign currency asset position normalized by a country’s export openness and the foreign currency share of total debt— as a short-hand stress indicator of the vulnerability of an economy to an exchange rate depreciation. As shown in Figure 10, South Korea moved from a small net negative position in 1994 (i.e., an exchange rate depreciation would slightly reduce the net worth of the economy) to a sizeable negative position in 1996, as the economy experienced a 10-fold rise in net currency liabilities and a smaller increase

in the foreign currency share of total debt, in the absence of a significant increase in export openness. The implication of this movement in the Goldstein-Turner measure was that, heading into 1997, South Korea was both more likely to experience a currency collapse and that such an event would have a severe impact on the economy.<sup>23</sup> Unlike the analysis of internal vulnerabilities which could be easily observed contemporaneously, few if any analysts properly understood the external vulnerabilities created by the borrowing activities of overseas bank affiliates.

### THE 1997 CRISIS AND ITS AFTERMATH

Between 1994 and 1996 South Korea experienced an investment boom that was increasingly financed by mismatched foreign borrowing. Unlike Southeast Asia, where the investment boom was concentrated in the real estate sector, much of the capital was flowing into manufacturing, presumptively giving less cause for concern.<sup>24</sup> However, a substantial share was invested in industries that were already arguably characterized by excess capacity, and by the mid-1990s South Korea was experiencing slowing total factor productivity growth, deteriorating terms of trade, and declining profitability. South Korea's largest export market, Japan, went into recession in 1996, and the *yen* began to

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<sup>23</sup> To be clear the effective mismatch index is retrospective—the data requirements preclude contemporaneous calculation of the measure. However the index is now reported on the Asian Development Bank's AsianBondsOnline website [http://asianbondsonline.adb.org/asianbondindicators/ave\\_effect\\_currmismatch.php](http://asianbondsonline.adb.org/asianbondindicators/ave_effect_currmismatch.php)

<sup>24</sup> There is a gargantuan literature on the South Korean crisis of 1997-8. For entry points into this literature, see Wang and Zang (1998), Noland (2000), Smith (2000), Coe and Kim (2002), and websites maintained by the NBER, <http://www.nber.org/~confer/2000/korea00/korea00.html>, and Nouriel Roubini, <http://www.stern.nyu.edu/globalmacro/>.

depreciate significantly against the dollar, generating an effective real appreciation of the *won*. Export growth slowed in 1996 and turned negative the following year. Stock market prices, which peaked in 1994, accelerated their decline.

As conditions worsened in 1996, the margin of error for the highly leveraged *chaebol* evaporated. In January 1997 Hanbo Steel, the seventeenth largest *chaebol* ranked by sales, collapsed amid \$6 billion of outstanding debts. The collapse of Hanbo, the first major *chaebol* to go bankrupt in more than a decade, was to have repercussions beyond its debts: a subsequent series of bribery arrests culminating in the arrest and conviction of President Kim Young-sam's son and political confidante, Kim Hyun-chol, shook the political establishment and greatly damaged the elder Kim. The Hanbo collapse was followed by the failures of two more *chaebol*, driving up interest rates in the large corporate bond market, and imposing negative externalities on all corporate borrowers. During the second quarter of 1997, spreads on South Korean government bonds began to widen, while, as points of comparison, those on Indonesian and Malaysian government bonds remained unchanged. The market was signaling an increase in South Korean country risk. The turning point arguably came in June with the failed nationalization of Kia, the country's third-largest automaker.

Despite these worsening conditions, the vulnerability of the South Korean economy was not universally appreciated, neither by forecasters, whose expectations for the South Korean economy were myopic in the extreme (Figure 11), South Korean government officials, nor the IMF.<sup>25</sup>

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<sup>25</sup> For example, the head of one government think tank, after accurately diagnosing the labor problems, loss of political confidence, and macroeconomic imbalances emerging in South Korea, in a public address in Washington in April 1997, dismissed concerns over the short-term debt and concluded: "There is, in fact, no economic crisis in Korea, if, by a crisis, we mean that there is

If domestic turmoil was its only problem, South Korea might have been able to avoid the conflagration that was to engulf it. Instead, in the second half of 1997 South Korea was rocked by the shocks emanating from the financial crisis that had seized Southeast Asia and an emerging banking crisis in Japan, its principal source of foreign loans. The South Korean economy was adversely affected through three channels: spillovers in real terms as the depreciations of its competitors (especially Taiwan) effectively acted as competitive devaluations; contagion in financial terms; and a precipitous decline in roll-over rates as Japanese banks hunkered down. The result was a collapse in private capital inflows (Figure 4).

These forces put considerable downward pressure on the *won* in the latter part of 1997. South Korean authorities spent billions of dollars in an unsuccessful attempt to maintain their quasi-peg, but by December they were forced to abandon any pretense of controlling the exchange rate.<sup>26</sup> The currency went into freefall. Developments in the currency market rebounded on the domestic financial system. As the exchange rate collapsed, financial and non-financial firms with un-hedged foreign-currency-denominated debt were crushed by a mounting debt burden in domestic resource cost

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imminent danger to the national economy—as was the case with Mexico in 1994” (Young 1997 4). He was not alone—as late as September 1997, IMF missions to Seoul were giving the economy a clean bill of health.

<sup>26</sup> On 27 August a high ranking official of Ministry of Finance and Economy (MFE), in one history’s weirder abuses of metaphor, told a Seoul press conference that the BOK would defend its “Maginot Line” of 900 won to the dollar. Unfortunately, this new Maginot Line was as ineffective as the original, and the level was soon breached. The BOK continued to intervene in the foreign exchange market in a futile attempt to defend the won. On 17 November, in a press conference that would have been farcical if not for the stakes, MFE officials again invoked the “Maginot Line” imagery, solemnly declaring that they would defend their newest line of 1000 won to the dollar. They spent billions of dollars trying, but the following day the barrier was breached once again.

terms. By year's end the stock market had lost more than half its value in a period of eight months.

South Korea initially sought assistance from Japan and the United States bilaterally, and after being rebuffed, approached the IMF. The Fund, the multilateral development banks and bilateral donors agreed to contribute to a rescue. Agreement was reached in November on a \$57 billion package, then the largest in history, nearly 20 times South Korea's IMF quota, in return for broad, though vaguely worded, reforms. This agreement was promptly denounced by all three candidates in the ongoing presidential campaign. The National Assembly refused to consider a package of financial reform legislation proposed by MFE, and the bank regulators marched on the National Assembly to protest their possible reorganization. Moreover, given the vagueness of the reform commitments, outside observers expressed skepticism about their eventual implementation. South Korean asset prices continued to plummet. On December 18 a former political dissident, Kim Dae-jung, was elected President. The following week, default was avoided when a second agreement, involving expedited disbursements was concluded, and William McDonough, chairman of the New York Federal Reserve, persuaded the international banks to keep their credit lines open. Ultimately, South Korea's creditors are persuaded to exchange their existing short-term loans for government-guaranteed bonds of longer maturity.<sup>27</sup>

In negotiating the second package, the Fund extracted significant policy commitments including both monetary and fiscal tightening (despite the fact that the 1996 general government budget surplus was five percent of GDP), as well as a variety of

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<sup>27</sup> See IMF (2003) for a detailed description of the coordinated rollover.



structural reforms, some unrelated to the financial crisis, such as the removal of the ban on the importation of Japanese automobiles. Although trade liberalization had been a staple of other IMF programs, the inclusion of these items contributed to the perception in South Korea that the IMF was simply being used as a tool of Japanese, and especially US, commercial policy.

Feldstein (1998) argues that the South Korean case could be thought of as a fundamentally well-functioning economy experiencing a temporary liquidity crisis. Had the Fund initially acted to coordinate a restructuring of private sector lending while providing temporary credits (in essence a bridge loan) the huge official money package could have been avoided and along with it the intrusive conditionality that the Fund demanded as part of the second deal. Indeed, South Korea ultimately borrowed less than \$29 billion, and in fact, did not draw down the entire IMF portion of the loan.

The South Korean crisis presented the IMF, the major finance ministries, and the multilateral development banks with a difficult situation. It occurred in the context of a cascading set of crises, which threatened to spread to Brazil and Russia. The South Korean government's willingness to guarantee the short-term foreign debt of private entities socialized risk, creating moral hazard and ultimately increasing the severity of the crisis. It waited too long to approach the Fund, and once it did, engaged in unhelpful tactics such as leaking confidential documents. The Fund and its allies had little control over these events, and confronted in November 1997 a situation that arguably posed a systemic risk to the international financial system.

When push came to shove, the Fund and its collaborators provided South Korea with an enormous package, far beyond its past lending practices in other cases and a

timely infusion of cash that undoubtedly prevented a chaotic default. That said, the macroeconomic conditionality imposed on South Korea was too severe.<sup>28</sup> It needlessly intensified the recession that was to come to be known colloquially as “the IMF recession” as the growth rate collapsed from 7 percent in 1996 to –7 percent in 1998 before rebounding to more than 10 percent in 1999 (Figure 1). Yet the South Korean economy had been beset with some significant structural problems, and, given the enormity of the December 1997 standby-agreement, considerable demands for structural reform could be expected, at least with regard to financial market regulation and corporate governance. Other aspects of the program, requiring specific trade and labor market reforms, or demanding an independent central bank with price stability as its sole mandate, were intrusive and at best only tangentially connected to the crisis.<sup>29</sup> Yet one could argue that the existence of such a demanding international organization allowed Kim Dae-jung to advance his own relatively liberal economic agenda more effectively than if the Fund or some similar organization had not existed.

In a sense South Korea benefited from the vagaries of the electoral calendar—President Kim entered the Blue House essentially owing nothing to the dominant interests in the society, and could blame the mishap on his predecessor. Given this freedom to maneuver, he moved resolutely to extract concessions from both the labor unions and the

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<sup>28</sup> There is a substantial academic literature on the monetary policy aspects of the crisis response reaching ambiguous conclusions about the in the interest rate increases embodied in the Fund program. There is less disagreement that the fiscal tightening was inappropriate. See IMF (2003) for a review.

<sup>29</sup> The Fund appears to belatedly acquiesced on this point, observing that: “the IMF may 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 for implementation on a more focused set of policy issues” (IMF 2003, 111).

*chaebol*. In the financial sector, the government immediately closed two brokerage houses and a number of merchant banks (including some affiliated with *chaebol*). The government began the process of auctioning off two nationalized commercial banks, while putting other financial institutions on short tethers. Despite the austerity and dislocation that would accompany the process of restructuring, the financial markets responded positively to these actions.

The crisis forced a restructuring of South Korea's systems of finance, regulation, and corporate governance, and a dismantling of the pervasive controls on international capital flows that characterized the pre-crisis regime. Since the crisis South Korea has arguably made better progress on economic reform than the other heavily affected Asian crisis countries, or Japan for that matter.

One manifestation of this has been an increase in FDI. As noted earlier, before the crisis, South Korea was unusual in that the dominant modality of investment was minority stake joint ventures. FDI spiked in 1999 and 2000 and has fallen considerably since then (Kim 2004 Table 1). The temporary hike was in large part stemmed from foreign minority partners buying out their South Korean counterparts—given the opacity of South Korean accounting practices at the time, incumbent investors were uniquely informed about the franchise value of these businesses.<sup>30</sup> Subsequent FDI has mostly taken the form of green-field investments.

In the financial sector, prudential regulation has been consolidated and strengthened through the creation of the Financial Supervisory Commission and the

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<sup>30</sup> One issue is whether these acquisitions amounted to a “fire-sale” of assets by financially distressed South Korean firms. Econometric results reported by Chari, Ouimet, and Tesar (2004) suggest not.

introduction of new regulatory practices, approaches, and standards. Competition was injected into the financial sector by the increased role of foreigners through a variety of institutional arrangements. What appears to be more difficult to change has been the lending culture of South Korean financial institutions (Mann 2000). In the aftermath of the crisis, lenders went from bingeing on corporate lending to bingeing on household lending: South Korean household debt registered the fastest growth in the world, increasing 18 percentage points of GDP in two years, before ending in crisis with the insolvency of the country's largest credit card issuer.<sup>31</sup> A current challenge centers on the rapidly growing use of financial derivatives by South Korean financial institutions and the concern that the regulatory regime may not have kept pace with financial innovation.

Nevertheless, the improvement in the function of South Korea's financial system can be seen in firm level balance sheet data: South Korean corporations on the whole have reduced their leverage, and access to capital increasingly is a function of profitability (Alexander 2003). This development is, in turn, facilitated by improved corporate governance through enhanced financial transparency, stricter enforcement of existing laws, and expanded scope for minority shareholders to seek legal redress.

What has not happened is the development of independent institutional investors capable of monitoring management. To the extent that such institutional investors exist in South Korea, they tend to be affiliated with the major *chaebol*, and though some foreign institutional investors and the nascent shareholder rights movement have exerted some salutary influence, it is fair to say that the country still lacks a real market for corporate control. South Korean equity markets have become more integrated with

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<sup>31</sup> See IMF (2004) for a summary of the credit card debacle.

markets elsewhere. In part this increase reflects the natural integration of markets following the removal of restrictions on foreign ownerships of South Korean stocks (foreigners now own more than 40 percent of the shares on the Korean Stock Exchange) and the removal of restrictions on South Korean residents' ability to invest abroad. Yet despite these developments, the interest rate spread on South Korean debt remains higher than it was pre-crisis (Figure 12).

In June 1998 the government announced a plan to liberalize all foreign exchange transactions in two stages. The first stage took effect 1 April 1999 with the implementation of the Foreign Exchange Transaction Act which liberalized most existing restrictions on current account transactions and established a negative list system for capital account transactions under which transactions are legal unless stipulated by law or decree. (See Kim (2001 Appendix) for a complete description.) The second stage of the exchange control liberalization took effect 1 January 2002.

In April 2002 the government announced "The Plan for the Development of the Korean Foreign Exchange Market," which envisions full liberalization of foreign exchange regulations by 2011 as part of the government's attempt to establish South Korea as a regional business hub for Northeast Asia. At present the exchange rate system is classified as independently floating in an inflation-targeting framework by the IMF. In recent years exchange rate interventions have been sizeable however, and would appear to go beyond the smoothing operations as characterized by the Fund, and instead, involve an attempt to prevent appreciation of the *won*. As of August 2004, South Korea has accumulated \$171 billion in official reserves, and exchange rate policy and the magnitude

of currency market interventions have emerged as a source of controversy within the South Korean government.

## CONCLUSION

South Korea is a fascinating case in that it combines the characteristics of sustained prosperity, capital controls, and financial crisis in striking manner. Pervasive capital controls, which de-linked South Korea's internal financial markets from the rest of the world, were a necessary component of the country's capital channeling development strategy. This strategy clearly was consistent with rapid and sustained economic development, though it may or may not have been causal.

These interventions create domestic political constituencies for both their perpetuation and dissolution, and the implementation of liberalization programs will reflect political competition among these groups. Transition is also affected by the demands of foreign financial services providers, which, having developed greater efficiency in a more competitive environment, regard the protected market as an opportunity. All of these phenomena are evident in the South Korean case.

Because of its somewhat amorphous nature, perhaps the most difficult challenge is the legacy of financial repression in "dumbing down" both private sector actors and their public sector regulatory counterparts. The main ongoing concern in South Korea is not the macroeconomic adjustment to the removal of capital controls *per se*, but rather the lingering concerns about both the lending culture of South Korean financial sector

firms and the capacity of South Korean authorities to successfully regulate the more complex financial system enabled by liberalization.

The obvious question is whether South Korea could have developed a more dynamic and market-oriented financial system in the presence of international capital controls. In theory there is no reason why this could not have happened if South Korea had chosen this path. Indeed, the strengthening of domestic financial institutions prior to opening the capital account is a staple of the sequencing literature, and South Korea in the late 1980s appeared to meet the basic preconditions for a successful transition, such as fiscal health (Edwards 1989). Similarly one can imagine a greater (or lesser) role for foreign financial service providers under a variety of institutional and regulatory constructs. Yet it is doubtful whether this could have been obtained in practice. Neither South Korean government officials nor the intelligentsia evinced much ideological commitment to the notion of freer financial markets, and perhaps more importantly, there were some very large and powerful interest groups that were opposed to liberalization. For better or worse, given the specifics of the South Korean situation, freer international capital flows, a less regulated domestic financial system, and an increased role for foreign financial service providers were probably not greatly separable components of financial sector reform.

## Appendix

### Chronology of Capital Flow Liberalization in South Korea

This appendix provides a timeline of capital flow liberalization in South Korea. It is derived primarily, though not exclusively, from Johnston et al. (1999) and the Bank of Korea website, [www.bok.or.kr](http://www.bok.or.kr). The chronology is organized by topic: foreign direct investment (FDI), followed by portfolio investment, other capital flows, capital market organization, and foreign exchange.

#### Foreign Direct Investment

1983

- Revision of Foreign Capital Inducement Law establishes principle that inward FDI, subject to approval, permitted except in specific “negative list” sectors.

1985

- More than 100 sectors eliminated from the “negative list.” “Liberalization ratio” (share of industries open to FDI) reaches 76 percent, 92 percent in manufacturing.

1986

- Initial liberalization of restrictions on direct investment abroad begins.

1987

- 26 manufacturing additional sectors eliminated from “negative list.”
- Tax incentives for FDI in strategic sectors reduced.

1988

- Restrictions on FDI in advertising, motion pictures, and insurance relaxed.

1989

- Six manufacturing sectors are opened to FDI raising “liberalization ratio” to 79 percent, 98 percent in manufacturing.
- Limit on automatic approval is raised to \$5 million from \$3 million.

1990

- The limit on automatic approval is raised to \$100 million from \$3 million.
- Two more sectors are opened to FDI.

1991

- The approval requirement is replaced with notification system for projects with foreign participation of less than 50 percent.
- Exemptions are granted to foreign firms on corporate profit taxes for three years, while a 50 percent exemption is established for the two successive years.
- Restrictions on foreign ownership of retail businesses are relaxed.



1992

- The approval requirement is replaced by a notification system for investments in most business sectors.

1994

- The Foreign Capital Inducement Act is amended to streamline application procedures. Rules on land ownership are relaxed.

1995

- Investment in 101 sectors is permitted or greatly liberalized.

1997

- August the debt limits on corporations making overseas direct investments, whereby 20 percent of investments exceeding \$100 million had to be financed by a firm's own capital, were abolished

1998

- Foreign Investment Promotion Act establishes the principle of national treatment, further narrows the “negative list” down to 5 percent of all sectors and 1 percent of manufacturing— 22 sectors including real estate rentals and sales, land development, waterworks, and investment companies and trusts fully open to foreign investment; broadens the scope of tax incentives available to foreign investors; simplifies approval procedures; and establishes foreign investment zones.

1999

- Five more categories including book publishing, alcoholic beverages, external maritime transport, blood-related products, and casinos fully opened.
- Investment in foreign real estate by domestic entities permitted.

2000

- Regulations on FDI brought into compliance with OECD standards.
- Cattle husbandry and news agencies partly liberalized.

2001

- Meat wholesaling partly liberalized.

Present situation: Twenty-nine out of 1,121 industries remain partially or completely closed to FDI. There is no limit on the amount that corporations can invest abroad, but all direct investments require notification of the corporations' banks and, for financial, banking and insurance companies, acceptance is required by the Ministry of Finance and Economy (MOFE). Notification of the BOK and foreign exchange banks is also required for purchases of foreign real estate by domestic companies or purchases of domestic real estate by foreigners. Minimum standards of domestic companies' foreign exchange earnings must be met in order for them to establish branches overseas.

## Portfolio investment

1984

- The Korea Fund is listed on the NYSE, providing international investors with an indirect means of investing in the Korean stock market.

1985

- South Korean firms are allowed to issue depository notes and warrants up to 15 percent of their outstanding share volume provided that no single foreign entity can acquire more than 3 percent of the capital by exercising conversion rights.

1987

- The Korea Europe fund is established further enabling foreigners to invest in the stock market.
- Inward remittances greater than \$20,000 are monitored to discourage investments in the stock exchange.

1989

- Foreigners are allowed to trade among themselves. South Korean shares permitted to be acquired through the exercise of bond conversion rights.
- Foreign exchange banks are allowed to issue foreign currency bonds off-shore and to underwrite and trade foreign currency bonds issued by nonresidents

1990

- The government allows the three domestic investment trusts each to establish a \$100 million fund (of which \$60 million to be raised abroad) to invest in South Korean companies (70 percent of the capital) and foreign securities.

1991

- The Korea Asia Fund is established.
- Nonresidents are allowed to convert into won up to \$100,000 to invest in development trusts with a maturity of more than 2 years.
- Securities in foreign currencies permitted to be issued by residents to finance import of inputs and machinery for which no domestic substitute is available.
- Nonresidents who had acquired South Korean shares through convertible bonds are allowed to trade them in the stock exchange.

1992

- Foreign investment directly in the South Korean stock market by nonresidents subject to ceilings of 3 percent for a particular investor and 10 percent for foreign investors in the aggregate permitted.

- Investments in stocks by resident foreign financial institutions are subjected to the same limits as those of institutions owned by nationals.
- Authorization for the issuance abroad of bonds, callable bonds, warrants, and stock depository receipts by residents is simplified and receipts can be maintained in accounts abroad.

1993

- Issues of securities denominated in foreign currency are not subject to permission but only to a reporting requirements; the class of eligible issuers is widened to include those with positive cumulative profits over the past three years.

1994

- Ceiling on nonresidents holdings of individual South Korean firms' capital raised from 10 percent to 12 percent. Nonresidents holdings of individual South Korean public corporations allowed up to 8 percent ceiling.

1995

- Ceiling on nonresidents holdings of private South Korean firms' capital raised from 12 percent to 15 percent.
- Brokers are allowed to engage in foreign exchange transactions related to nonresident investments in the stock market.
- Issuance of exchangeable bonds overseas is permitted provided that they do not exceed 15 percent of the firm's capital.
- Limits on offshore security issuance by small and medium-sized companies are relaxed.

1996

- Investment in domestic bonds by foreigners is allowed through the \$100 million Korea Bond Fund listed in London.
- Limits on foreign ownership of listed Korean firms are raised to 20 percent and 15 percent for private and public enterprises, respectively; ceiling on individual ownership is increased to 5 percent.
- Up to 50 percent of won-denominated securities issued by nonresidents can be sold abroad.

1997

- Foreigners can collectively purchase up to 30 percent of convertible bonds issued by small and medium-sized companies and only 5 percent individually.
- In June regulations relaxed so that foreign investors were allowed access to non-guaranteed bonds of small and medium-sized companies (maturities over three years and up to 50 percent of the amount listed) and of conglomerates (up to 30 percent limit of an issue together with a 6 percent individual limit).
- The issue abroad of won-denominated securities requires approval by the MOFE. The issue of foreign currency denominated securities must be reported to the MOFE.

- December 11 authorities raised the ceiling on aggregate foreign ownership of listed Korean shares from 26 percent to 50 percent and the individual ceiling from 7 percent to 50 percent; eliminated all limits on foreign investment in non-guaranteed bonds issued by small and medium-sized companies; and allowed foreign investment in the guaranteed corporate bond market (for maturities greater than three years) with limits at 10 percent and 30 percent for individuals and in aggregate, respectively.
- December 12 authorities raised aggregate limits for foreign investment in non-guaranteed corporate (convertible) bonds from 30 percent to 50 percent.
- December 23 authorities allowed foreigners to invest in government and special bonds, up to the aggregate ceiling of 30 percent, and eliminated all individual limits for foreign investment in corporate bonds.
- December 30 authorities eliminated all foreign investment ceilings for the government, special, and corporate bond markets, including for maturities of less than three years; lifted the restriction on foreign borrowing of over three years' maturity; and raised the aggregate ceiling on foreign investment in Korean equities to 55 percent.

1998

- Restrictions on the amount of foreign investment in Korean equities lifted, domestic bond and money markets opened to foreigners.

1999

- Offshore issuance of securities with a maturity of less than one year by domestic entities permitted.
- Issuance of *won*-denominated and foreign currency-denominated securities by foreign entities permitted.
- Investment in foreign financial and insurance markets by domestic entities permitted.

Present situation: Ceilings on purchases of Korean stocks remain in place for 23 domestic firms.

### Other Capital Flows

1981

- Issuance of foreign beneficiary certificates by Korean trust companies allowed.

1985

- Some restrictions on foreign loans to domestic firms are relaxed.

1986

- Regulations on foreign currency loans tightened.

1987

- The government directs financial institutions to repay foreign short-term borrowing and bank loans that bear “unfavorable conditions.” Special deposits by the central bank are made at Korean foreign exchange banks for this purpose.

1988

- Nonresidents are prohibited from converting in won amounts withdrawn from their accounts. Sales of foreign currency by nonresidents to domestic banks are limited to \$10,000.
- Limits on banks’ foreign exchange loans to small and medium-sized enterprises and export firms are strictly enforced.

1989

- A limit of \$200 million is set on special foreign currency loans granted to a firm during a year.
- Currency loans are now admissible for investment operations abroad, subject to a ten-year maturity limit and ceilings of 60 percent and 80 percent of the investment for large and small firms respectively.
- The amount of foreign currency allowed in the country without notification to the tax authorities is raised in two steps to \$10,000.

1990

- Central bank loans for the redemption of the foreign currency loans by banks and firms are abolished.

1991

- Limits on foreign currency loans for investments abroad are reduced to 40 percent and 60 percent of the total for large and small enterprises respectively.

1992

- The maximum amount of loans of overseas investments is increased to 60 percent and 70 percent for large and small enterprises, respectively.
- Residents can issue abroad negotiable certificates of deposits and commercial papers.

1993

- Nonresidents are allowed to hold won accounts.
- Manufacturing companies can obtain loans in foreign currencies for all imports of inputs and equipment; the Bank of Korea raises the amount of foreign exchange reserves earmarked for supporting foreign currency loans by domestic banks from \$1 billion to \$4 billion.

1994

- Ceilings abolished on borrowing by resident corporations and their foreign branches from nonresident financial institutions located abroad.

- Foreign-financed general manufacturing companies are eligible for short-term overseas borrowing, while the overseas borrowing by foreign-financed, high-tech firms is raised to 100 percent of the foreign capital share.

1995

- Eight leasing companies are allowed to undertake medium-and long-term borrowing offshore without intermediation from foreign exchange banks.
- Direct foreign borrowing by enterprises engaged in social projects and foreign-financed, high-tech firms is allowed up to 100 percent of capita (90 percent for large corporations) for redemption of import-related debts.
- Ratio of foreign currency loans taken by large companies for import of inputs and machinery is lowered to 70 percent of total cost.

1996

- Restrictions on foreign borrowing eliminated for certain small and medium-sized firms.
- Nonresidents are allowed to open won accounts in overseas branches of domestic banks.

1997

- July MOFE abolished regulations on the usage of long-term loans with maturities of over five years, bought into the country by foreign manufacturers.
- August the period for importing on a deferred payments basis was lengthened by 30 days for raw materials used in manufacturing exports commodities for SMEs in April 1997. The period was extended for large enterprises as well in August 1997.
- Foreign investment funds approved by the MOFE can purchase domestic individuals require the prior approval of the MOFE, (2) The issuance abroad of other securities like certificates of deposit in foreign currency denominations require the MOFE's approval.
- Certain forms of trade credits are allowed without prior approval; however, deferred payments for the imports of goods and export advances (except those by small and medium-sized firms) are subject to binding value limits. Export down payments up to 8- percent of the value are allowed for ships and plant building during production.
- Foreign exchange banks can borrow from abroad. Need to report foreign borrowing to the MOFE when the maturity exceeds one year and for amounts over \$10 million.
- Credits from nonresidents to non-bank residents require prior approval by the MOFE.
- Foreign-financed, high-tech companies can borrow up to 100 percent of the foreign invested capital with maturity limited to three years.
- Foreign borrowing with a maturity of less than three years is governed by the Foreign Exchange Act.
- Residents cannot lend abroad without the approval of the MOFE.

## 1998

- February 16 authorities removed restrictions on corporate borrowing from abroad up to \$2 million for venture companies.
- Authorities opened up money market instruments issued by nonfinancial institutions (commercial papers, commercial bills, and trade bills) to foreigners without limits.
- The requirement that foreign borrowing from abroad exceed \$1 million eliminated.

## 1999

- The Foreign Exchange Management Act abolished and replaced by the Foreign Exchange Transaction Act that liberalizes most current account transactions. Also authorizes safeguard mechanisms including freezing of transactions; a permission-based transaction system; the funneling of foreign currency to the BOK; activation of a variable deposit requirement (VDR) system; and requirement that a certain percentage of capital flows be deposited in a non-interest bearing account.
- Overseas short-term borrowing by “financially sound” domestic firms is permitted.
- Nonresidents permitted to make deposits and open won-denominated savings and trust accounts with maturities in excess of one year.
- Requirement that foreign-invested firms receive government approval for intra-firm transactions exceeding \$1 million abolished.

## 2001

- All restrictions lifted on foreign currency loans to residents by domestic banks.
- Remaining ceilings on current account transactions by individuals eliminated.

## 2002

- Regulations on individuals’ external payments eased.

## Present Situation

- Requirements for the repatriation of overseas claims, limits on nonresident won funding aimed at hedge funds, and restrictions on short-term external borrowing by “financially unsound” corporations are still in place.
- The permission system for some capital account transactions is to be liberalized by December 31, 2005 as stipulated in the current Foreign Exchange Transactions Act.
- Sale of foreign exchange by nonresidents over US\$20,000 without documentation is subject to notification requirements. Purchase of foreign exchange by nonresidents without documentation of previous sale in excess of US\$10,000 is subject to notification requirements.
- Notification requirements remain on foreign currency loans for non-bank firms, in particular loans in excess of US\$ 30 million. Firms whose debt ratio is greater than its industry average and/or credit rating is below investment grade are

considered “financially unsound” and are subject to special notification requirements for short-term foreign currency borrowing. Exceptions exist for certain “general manufacturing” or “high technology” industries.

### Capital Market Organization

1985

- The underwriting of foreign assets by domestic securities companies is permitted.

1987

- Foreign exchange banks begin offshore banking at the initiative of the government.
- Nine additional foreign banks are allowed to enter the trust investment business.

1993

- Overseas branches of domestic banks are allowed to supply loans to residents who trade commodities futures and financial futures.

1997

- Foreign exchange banks can conduct all form of transactions in the foreign currency market, including swaps, options, forwards and futures but the terms of the forward transaction between banks and non-bank customers must be based on bona fide transactions.
- December 29 restrictions on commercial bank ownership eased to encourage foreign investment in domestic financial institutions. The financial sector legislation passed on December 29, 1997 abolished the 4 percent ownership limit for commercial banks. Purchase of bank equity by foreign banks is now permitted without limit, but requires approval at three stages: 10 percent, 25 percent, and 31 percent. Domestic ownership above 4 percent is permitted provided that an equal or larger share is held by a foreign bank
- Commercial bank open positions in foreign currencies are subject to the following limits: (1) the overall overbought position must be lower than 15 percent of the equity capital and the oversold position lower than 10 percent of the equity capital or \$20 million, whichever is larger; (2) the spot oversold positions cannot exceed 3 percent of the equity capital or \$5 million, whichever is larger.

1998

- March 31 authorities allowed foreign banks and brokerage houses to establish subsidiaries.

1999

- Domestic institutions permitted to engage in derivatives transactions.



- The principle established under the Foreign Exchange Transaction Act that any financial institution meeting certain requirements merely notify MOFE before engaging in foreign exchange related businesses.

2002

- Securities and insurance companies allowed entry into the inter-bank market.

Present situation: 61 institutions are recognized as “foreign exchange banks” and authorized to engage in foreign exchange transactions for third parties. A larger number of businesses are authorized to engage in foreign exchange transactions on their own behalf. The overall open overbought (oversold) position in foreign currencies of foreign exchange banks must be lower than 20 percent of the equity capital. A foreign exchange bank must maintain reserves amounting to a prescribed proportion of its foreign currency deposit liabilities in the form of foreign currency deposits at the BOK. The current requirements are 5 percent for demand deposits, 2 percent for saving deposits, and 1 percent for foreign currency deposits by nonresidents and other banks. The banks are also subject to foreign currency mismatch regulations: 80 percent of short-term (less than three month) liabilities must be covered by deposits, and 50 percent of long term loans must be financed by long-term borrowings.

### Foreign Exchange

1963

- Multiple exchange rate system unified, *won* pegged to the dollar.

1980

- Introduction of “multi-basket” peg for the *won* determined by the weighted average of the SDR basket and a trade-weighted basket of major currencies, plus an additional “policy” adjustment factor.

1985

- Currency swaps are permitted.

1986

- Regulations on swaps further liberalized.

1987

- Restrictions lifted on futures and options. The limit on the forward contract period is eliminated.
- The ceiling on foreign banks’ swap operations is relaxed by 10 percent.

1988

- The limit on swaps by foreign banks is relaxed again by 10 percent.

1989

- The ceilings on swap operations by foreign banks are relaxed by another 10 percent.

1990

- Market Average Exchange Rate (MAR) System adopted in which the won was allowed to float within certain bands of daily fluctuation. Band initially set at +/- 0.4 percent.

1991

- Band widened to +/- 0.6 percent.

1992

- The range of forward exchange contracts admissible is extended.
- Band widened to +/- 0.8 percent.

1993

- Regulations on forward foreign exchange transactions are relaxed; ceilings held on foreign exchange deposits payable in domestic currency are abrogated.
- Band widened to +/- 1.0 percent.

1994

- Band widened to +/- 1.5 percent.

1995

- Band widened to +/- 2.25 percent.

1996

- The yen-won spot and forward market is established.
- Foreign currency derivative transactions are opened to nonresidents. Documentation requirements for forward and futures transaction are eliminated, but transactions still need to be based on real demand.
- The ceiling on swaps facility provided to foreign banks is relaxed by 10 percent.
- Swaps are allowed for portfolio investments abroad by financial and insurance companies.

1997

- All settlements with other countries can be made in any convertible currency except the won. Export earnings exceeding \$50,000 must be repatriated within six months.
- Residents can purchase derivatives through a foreign exchange bank, but issuance abroad requires MOFE's approval.
- November 11 band widened to +/- 10 percent.
- December 16 South Korea floats the won.

1999

- Real demand principle for forward and derivatives transactions abolished permitting further development of these markets. Korea Futures Exchange (KOFEX) established.

2002

- Announced “The Plan for the Development of the Korean Foreign Exchange Market,” which envisions full liberalization of foreign exchange regulations by 2011.

Present Situation: Exchange rate system classified as independently floating in an inflation-targeting framework by the IMF. Interventions are sizeable and would appear to go beyond the smoothing function as characterized by the Fund.

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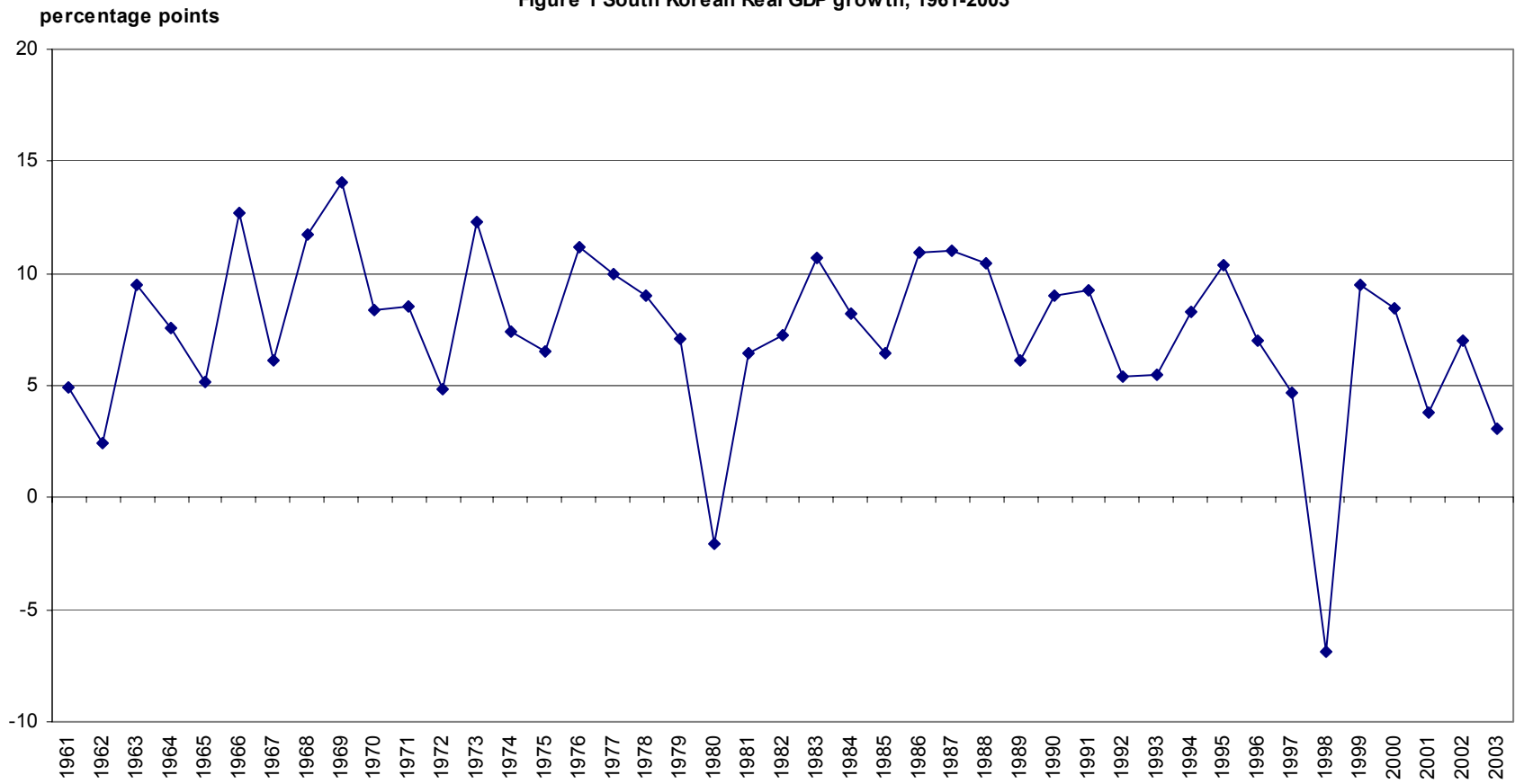
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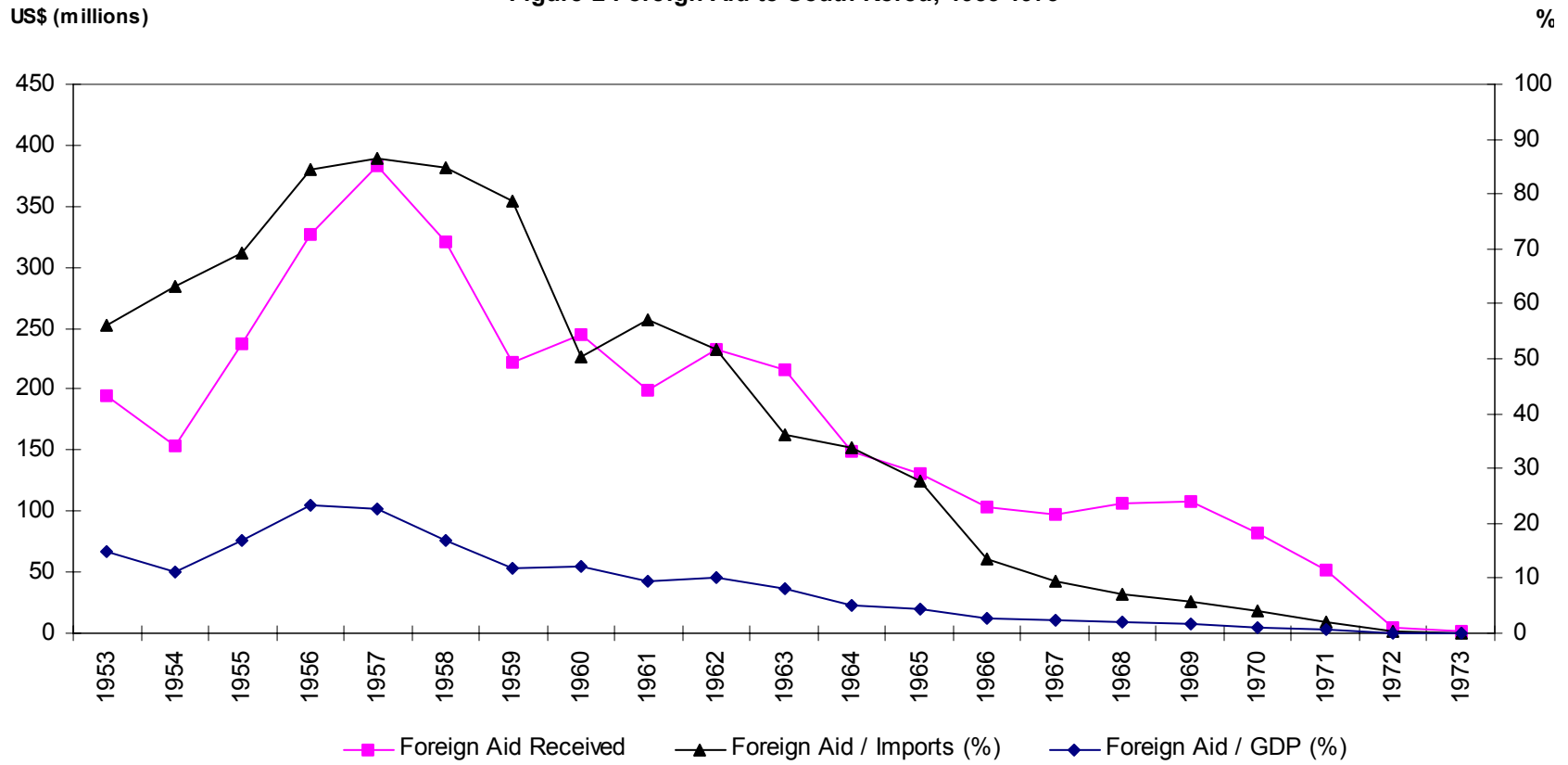
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Figure 1 South Korean Real GDP growth, 1961-2003



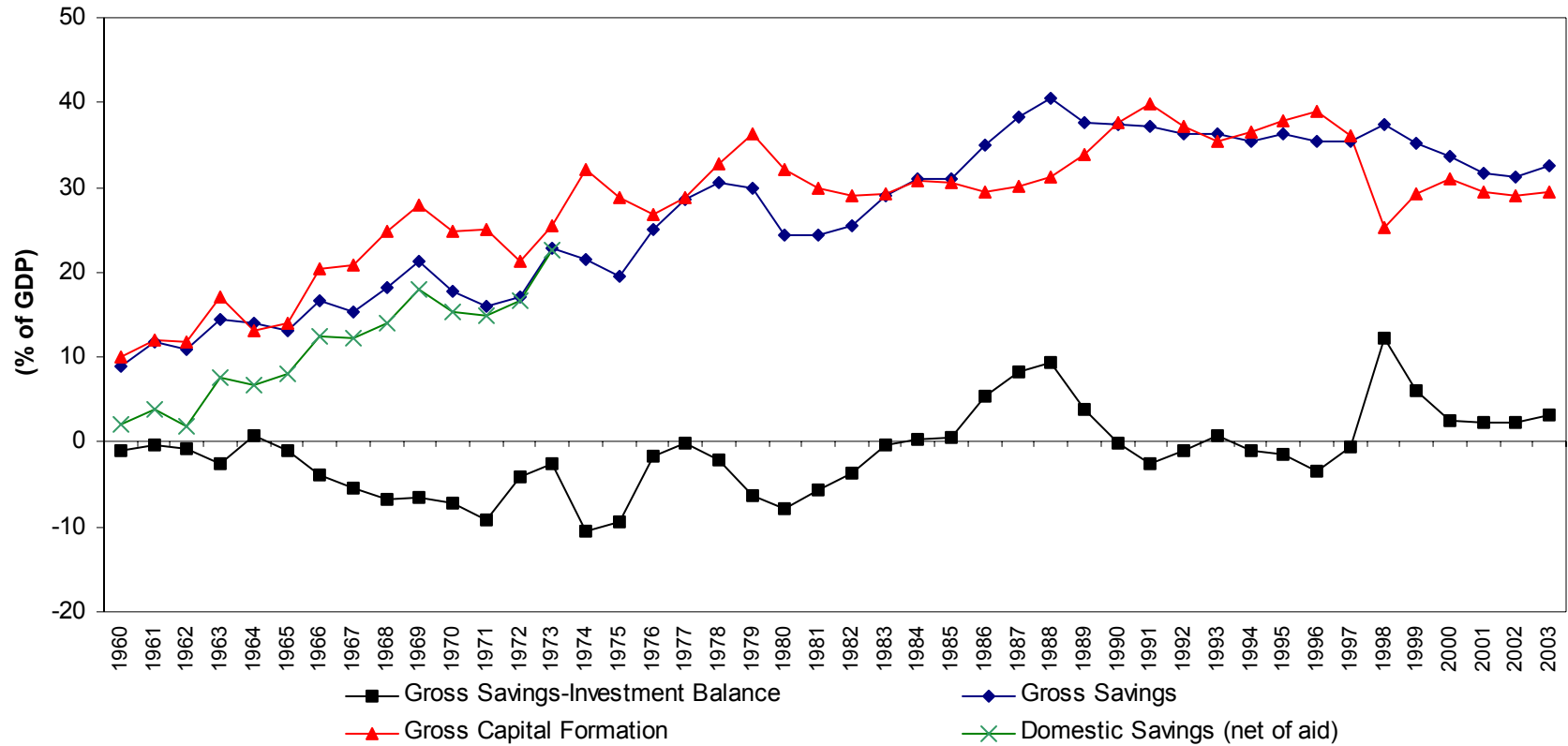
Source: World Development Indicators, 2004

Figure 2 Foreign Aid to South Korea, 1953-1973



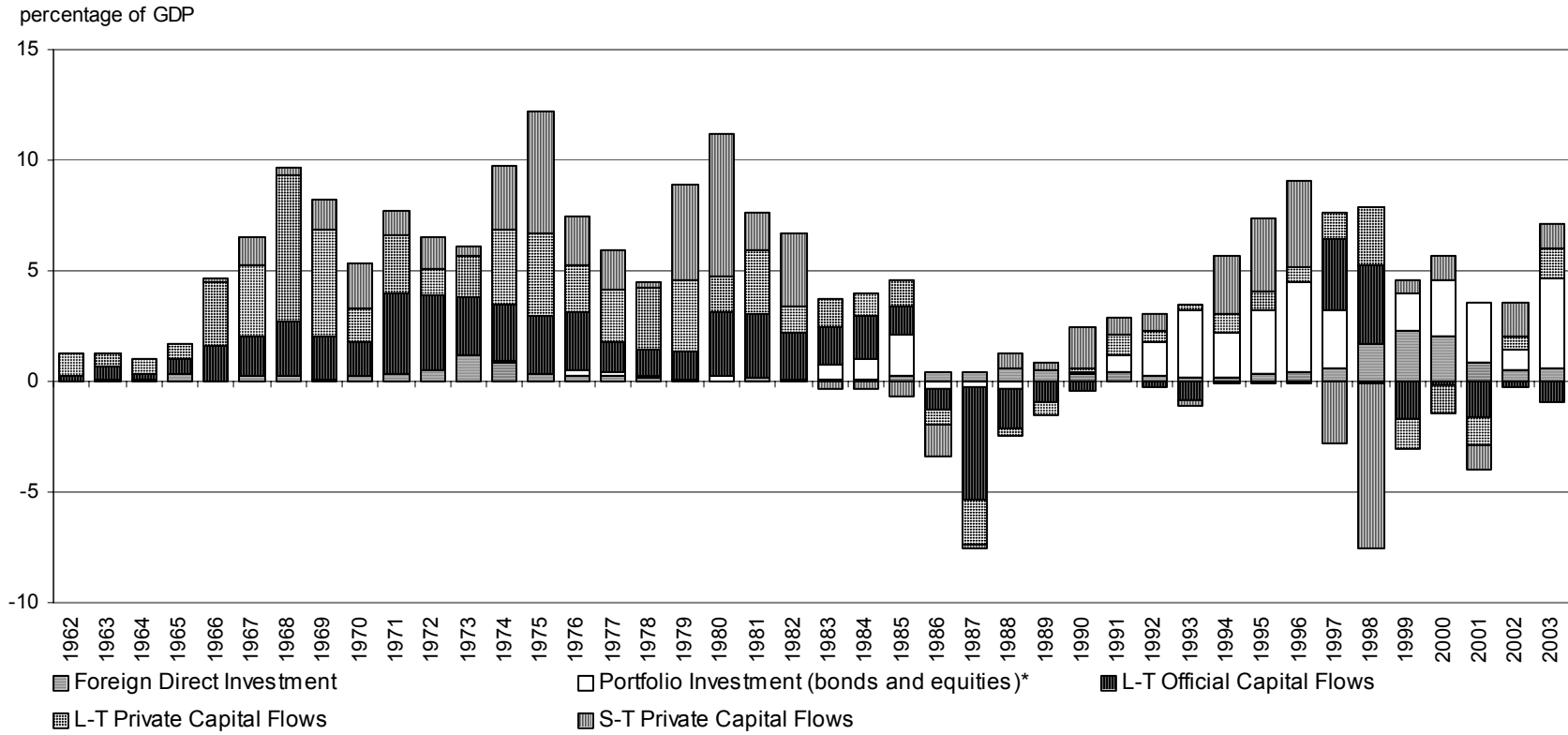
Source: Collins and Park (1989); World Bank's World Development Indicators; Bank of Korea

Figure 3 South Korean Savings and Investment, 1960-2003



Source: Bank of Korea Economic Statistics System, World Development Indicators

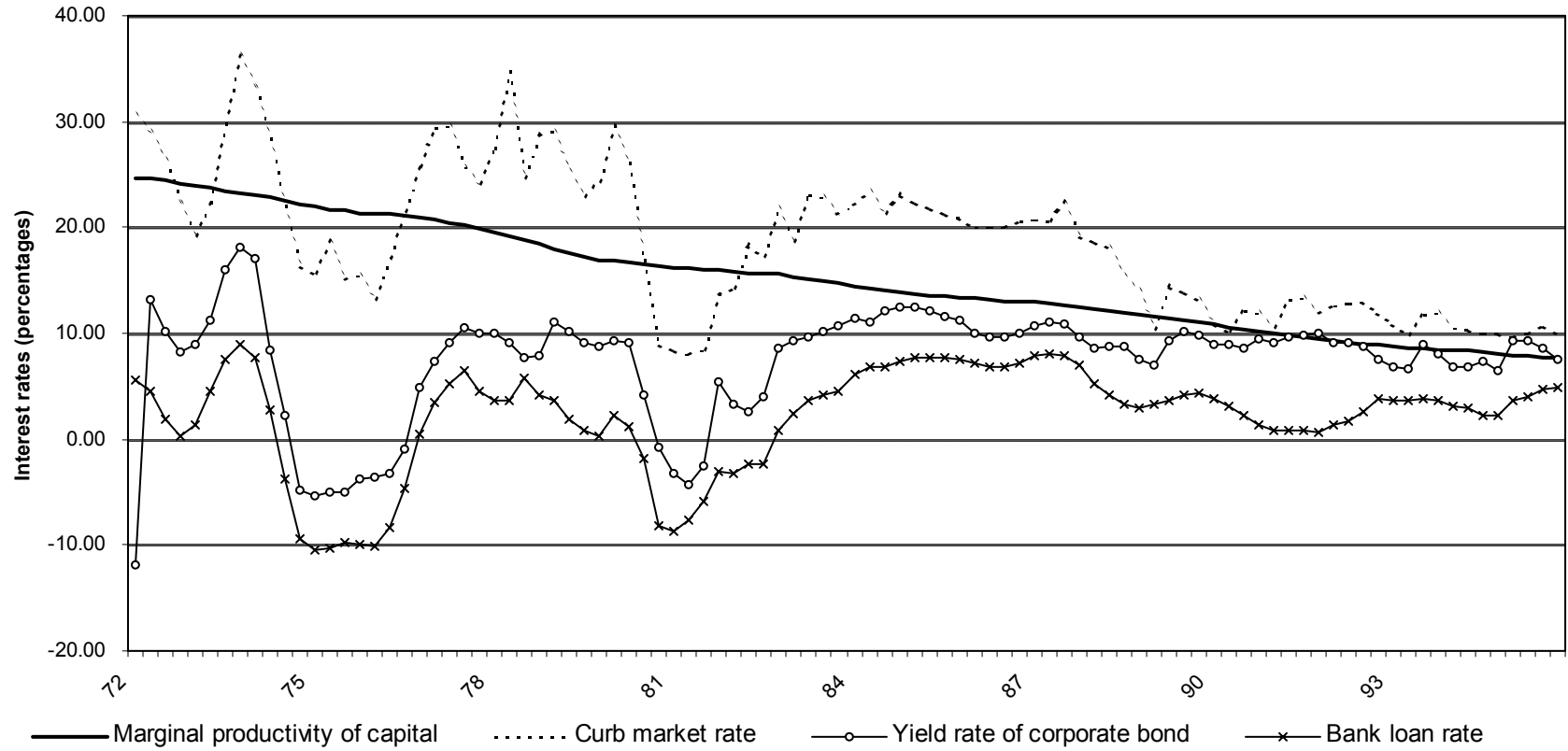
Figure 4 Composition of Capital Inflows, 1962-2003



\* Note: Portfolio investment assumed to be zero from 1962-73

Source: Park (1984); IMF Balance of Payments Statistics; Collins and Park (1989), Bank of Korea Economic Statistics System, World Development Indicators, author's calculations.

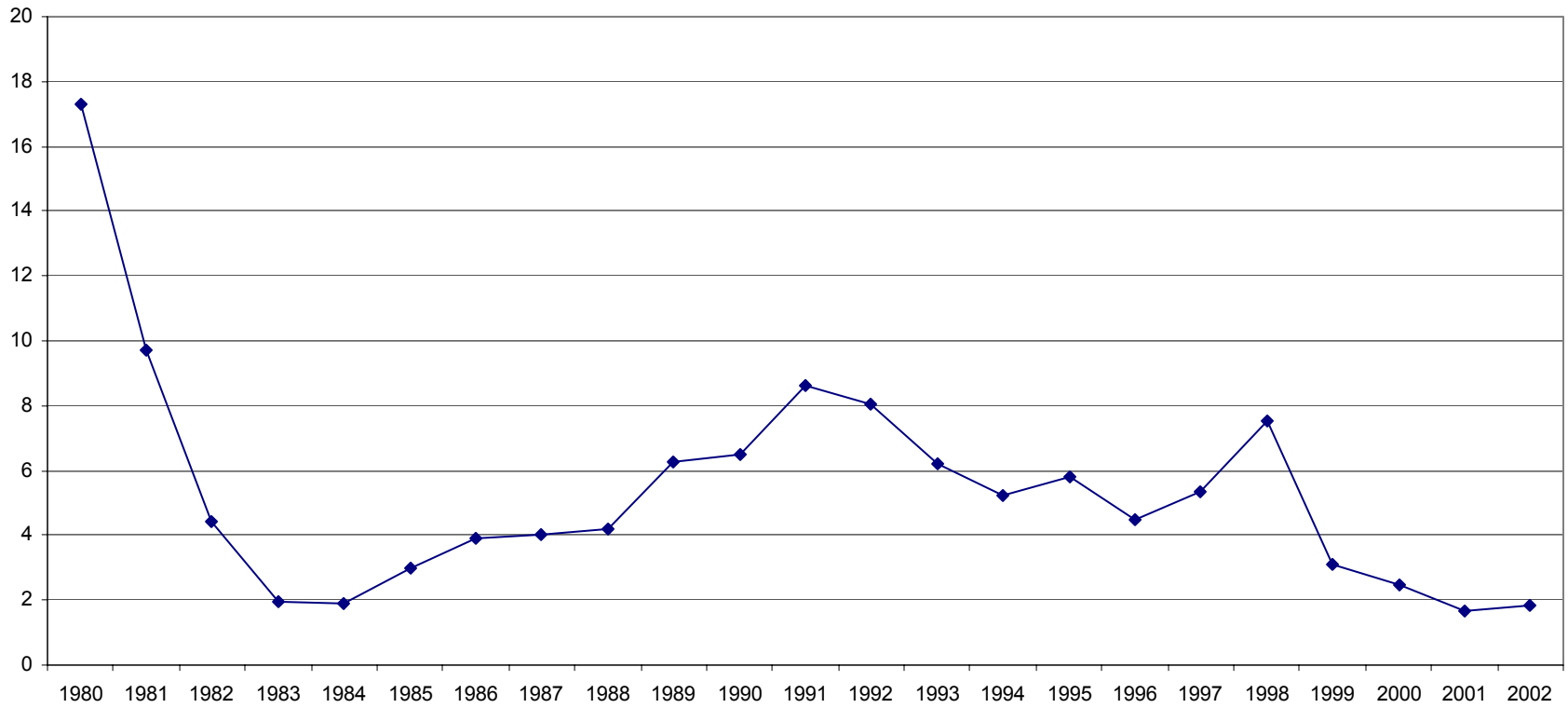
Figure 5 Real Interest Rates



Source: Cho and Koh

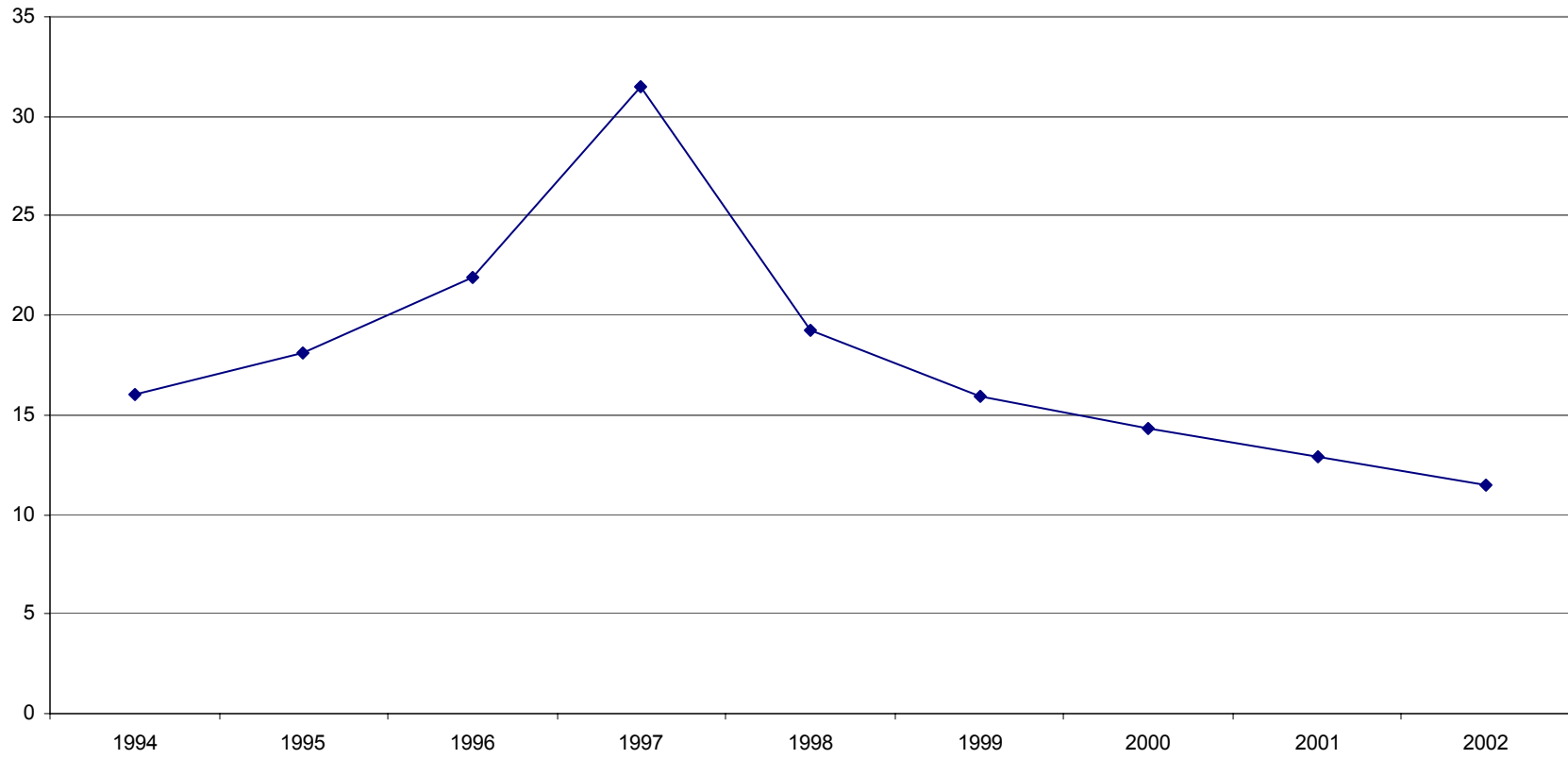
**Figure 6 Spread between Long-Term Government Bond Yields\***  
**South Korea and the United States**

percentage points



\*Note: For Korea, the yield is on National Housing Bonds 1 and 2. For the United States, the yield reported is on the 10-year Treasury note.

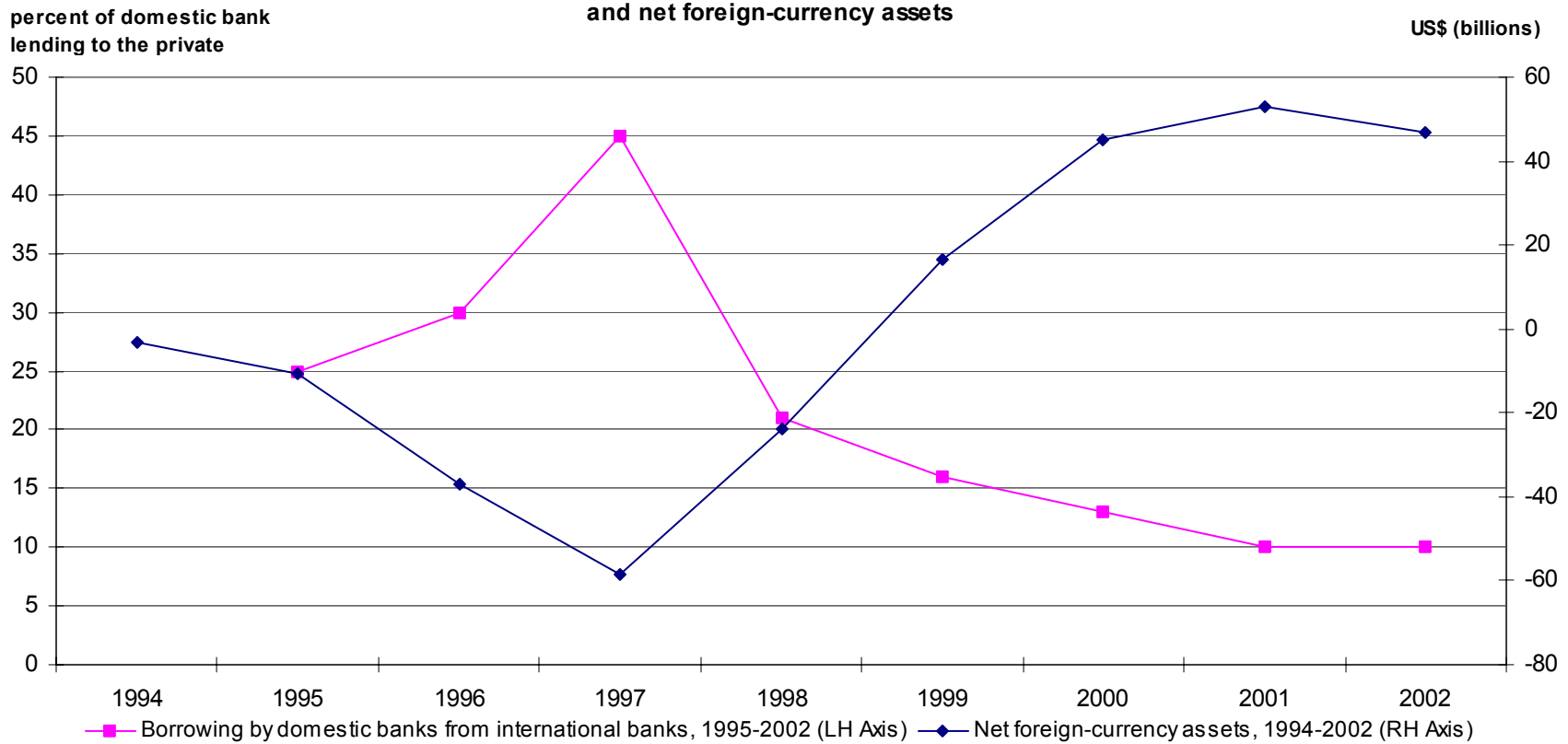
**Figure 7**  
**Foreign-currency percentage share of total debt, 1994-2002**



Source: Morris Goldstein and Philip Turner, *Controlling Currency Mismatches in Emerging Markets*. Institute for International Economics. Washington: 2004. Table 4.4

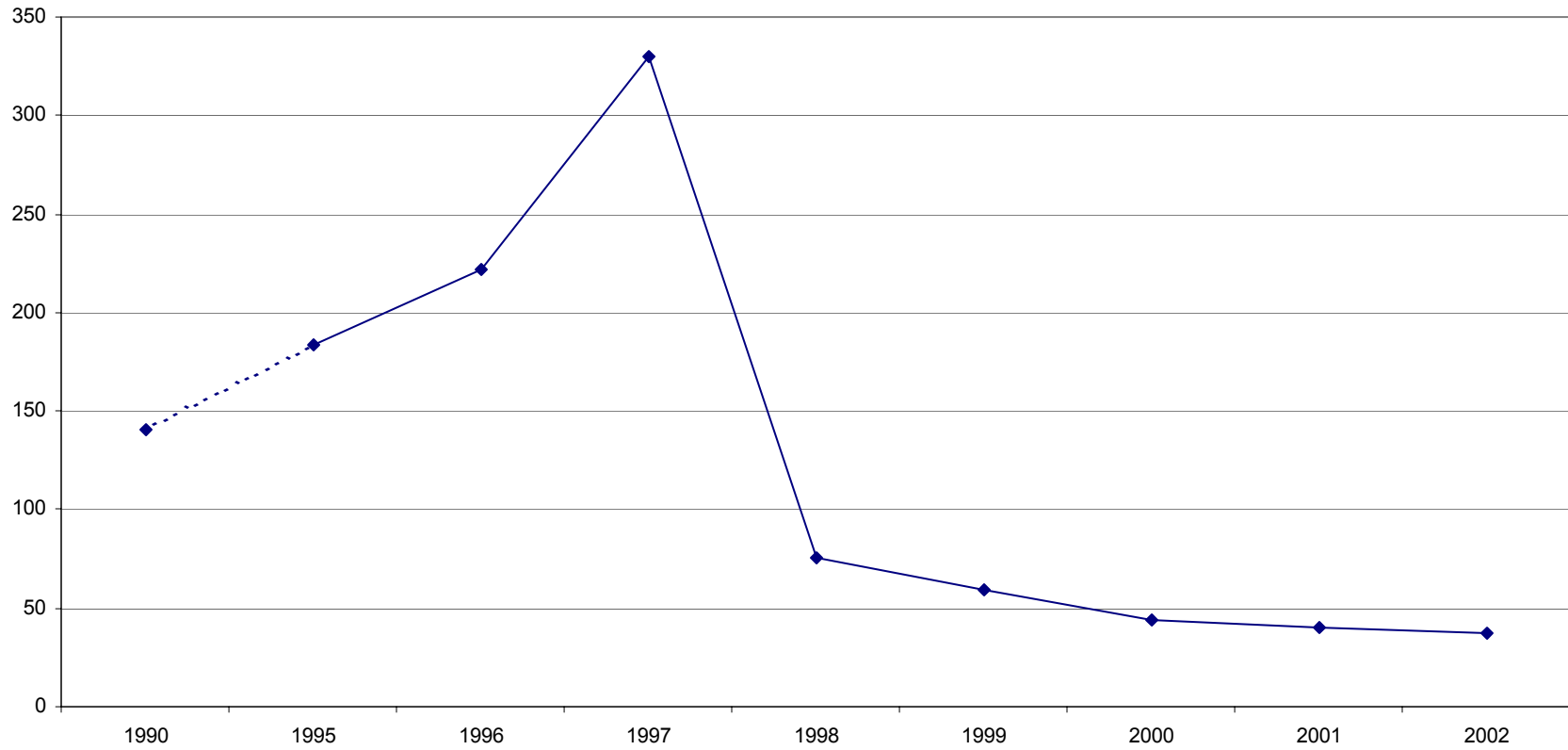


**Figure 8 Borrowing by domestic banks from international banks  
and net foreign-currency assets**



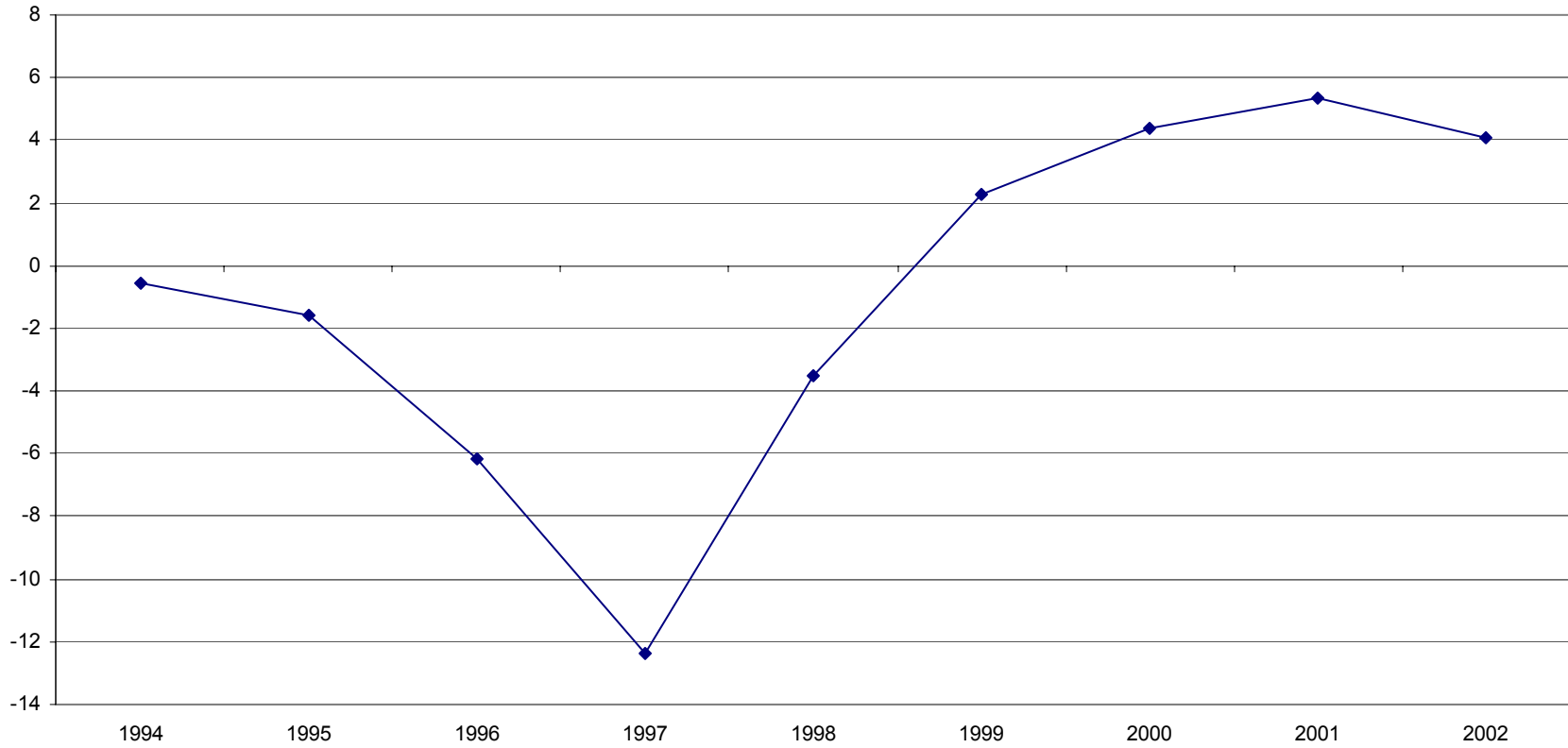
Source: Morris Goldstein and Philip Turner, *Controlling Currency Mismatches in Emerging Markets*. Institute for International Economics. Washington: 2004. Tables 2.2 and 4.3

**Figure 9**  
**Short-term external debt as a percent of foreign exchange reserves**



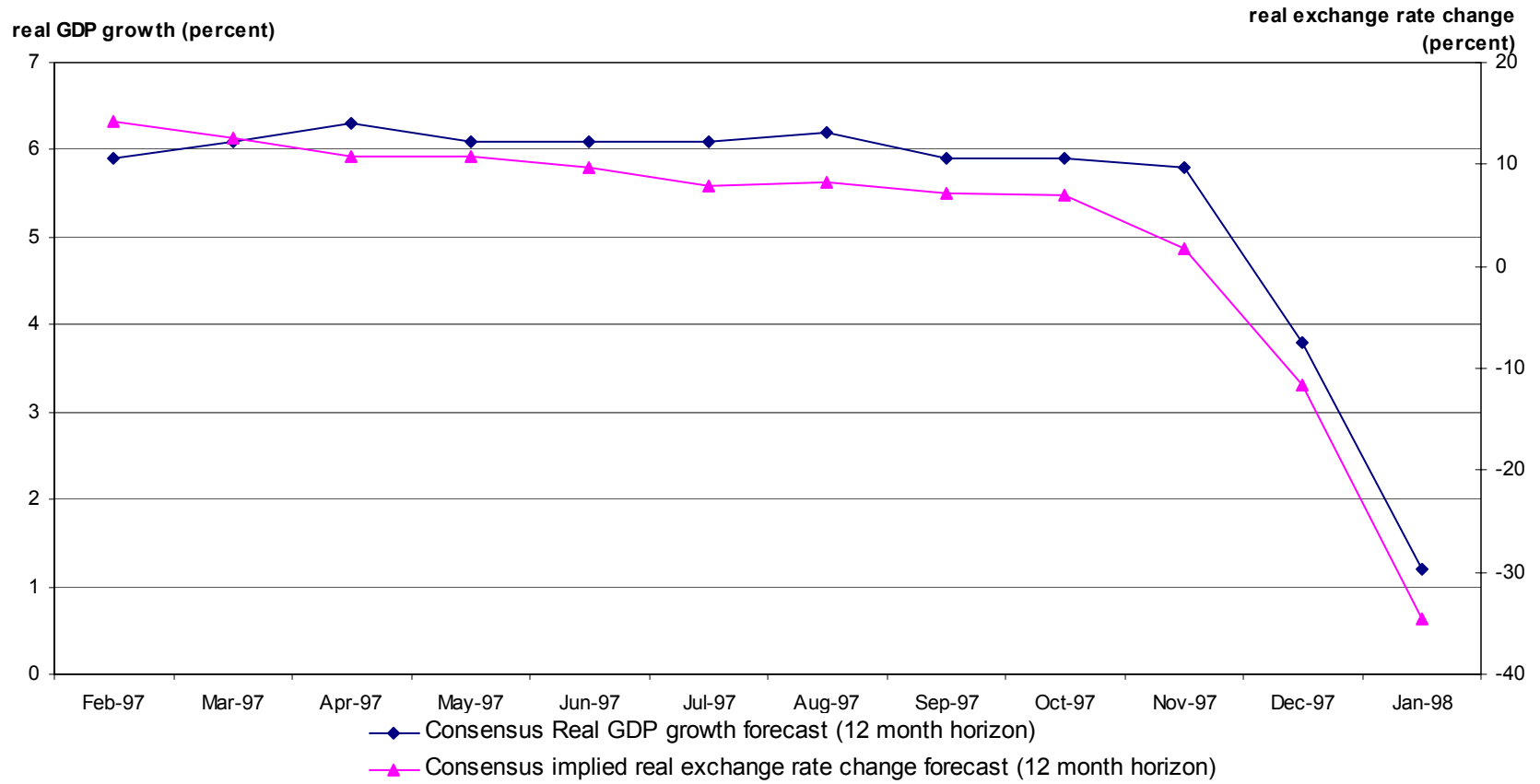
Source: Morris Goldstein and Philip Turner, *Controlling Currency Mismatches in Emerging Markets*. Institute for International Economics. Washington: 2004. Table 9.1

Figure 10  
"Modified" Goldstein-Turner Aggregate Effective Currency Mismatch (AECM) estimates, 1994-2002



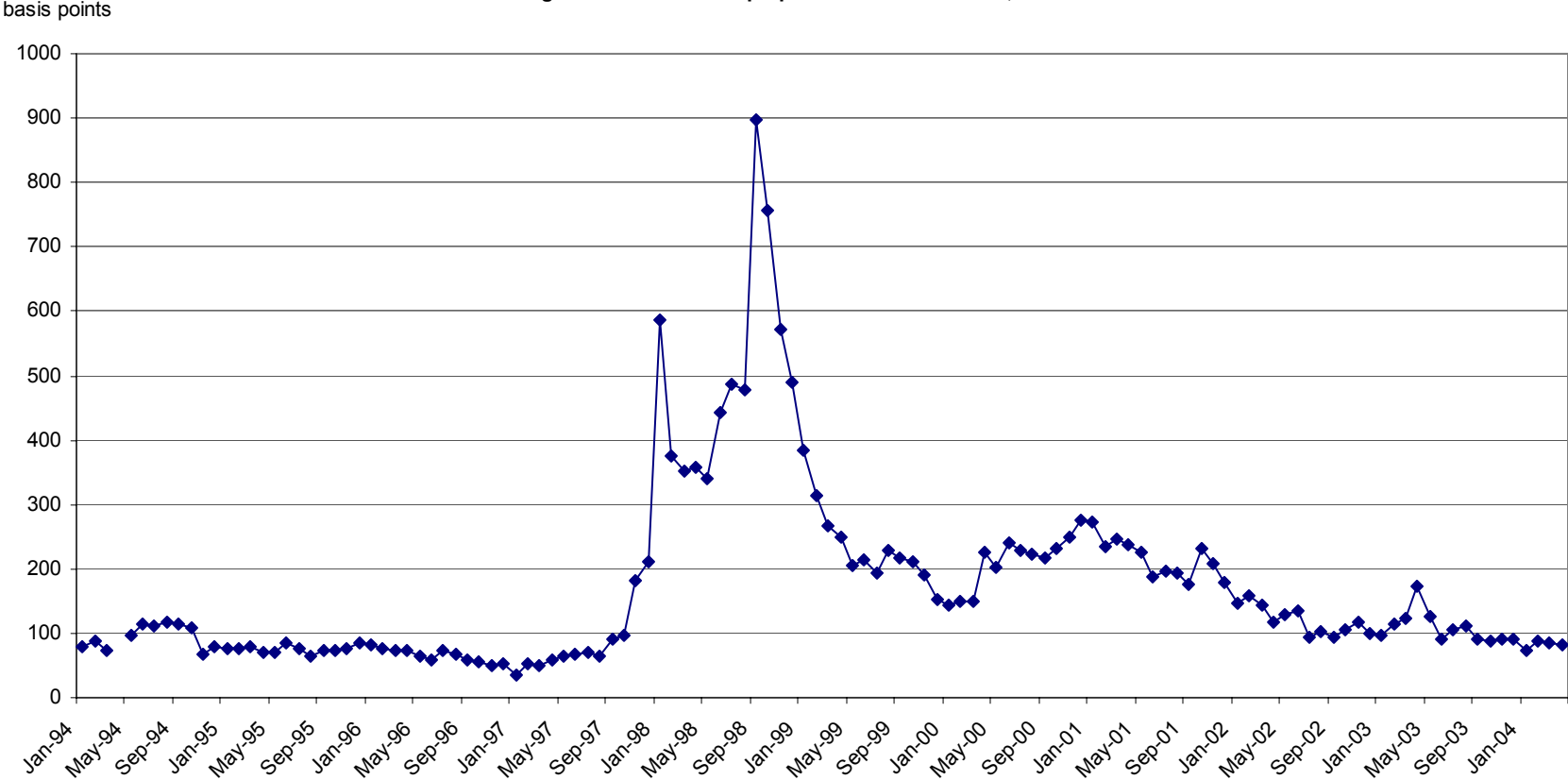
Source: Morris Goldstein and Philip Turner, *Controlling Currency Mismatches in Emerging Markets*. Institute for International Economics. Washington: 2004. Table 4.6

Figure 11 Real GDP growth forecast and expected real exchange rate change



Source: Marcus Noland. *Avoiding the Apocalypse*. Institute for International Economics. Washington: 2000. Figure 6.5

Figure 12  
J.P. Morgan EMBI-Global Strip Spread for South Korea, 1994-2004



Source: MorganMarkets, J.P. Morgan