

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

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Korean economic performance over the last four decades has been nothing short of spectacular. Between the initiation of a wide-ranging economic reform program in 1963 and the financial crisis in 1997, real per capita income growth 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.

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, 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 as part 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 were causal: this paper will not speculate on the counterfactual of what Korean economic performance might have been under a different policy package, but 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.

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Problems arose as the country approached the international technological frontier and opportunities for easy technological catch-up began to dissipate. 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.

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 Korean policy, its accession to the OECD, and the Basle accords on capital adequacy, created unintended incentives toward short-term bank borrowing, and the highly leveraged nature of the 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. In 1997, in the context the broader Asian upheaval (including events in Japan), Korea experienced a financial crisis with net clean-up costs that eventually amounted to 16 percent of 2001 GDP.<sup>1</sup> The Korean case is interesting precisely because it combines in an unparalleled manner the characteristics of sustained success, capital controls, and financial crisis.

#### **SIGNPOST REMAINING PAPER**

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<sup>1</sup> In these regards, the 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.

## CONCLUSIONS:

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.

Two concerns were expressed contemporaneously about capital account liberalization – that it would adversely affect incumbent Korean financial services firms and that it could be macroeconomically destabilizing. The behavior of the Korean government suggests that it put a greater weight on the former.

Korea would 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 Korea and the rest of the world is considerably higher as a result of the crisis-driven removal of capital controls. The Koreans seem to have come out of the crisis relatively successfully but concerns remain.

## HISTORICAL CONTEXT

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 pervasive 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>2</sup>

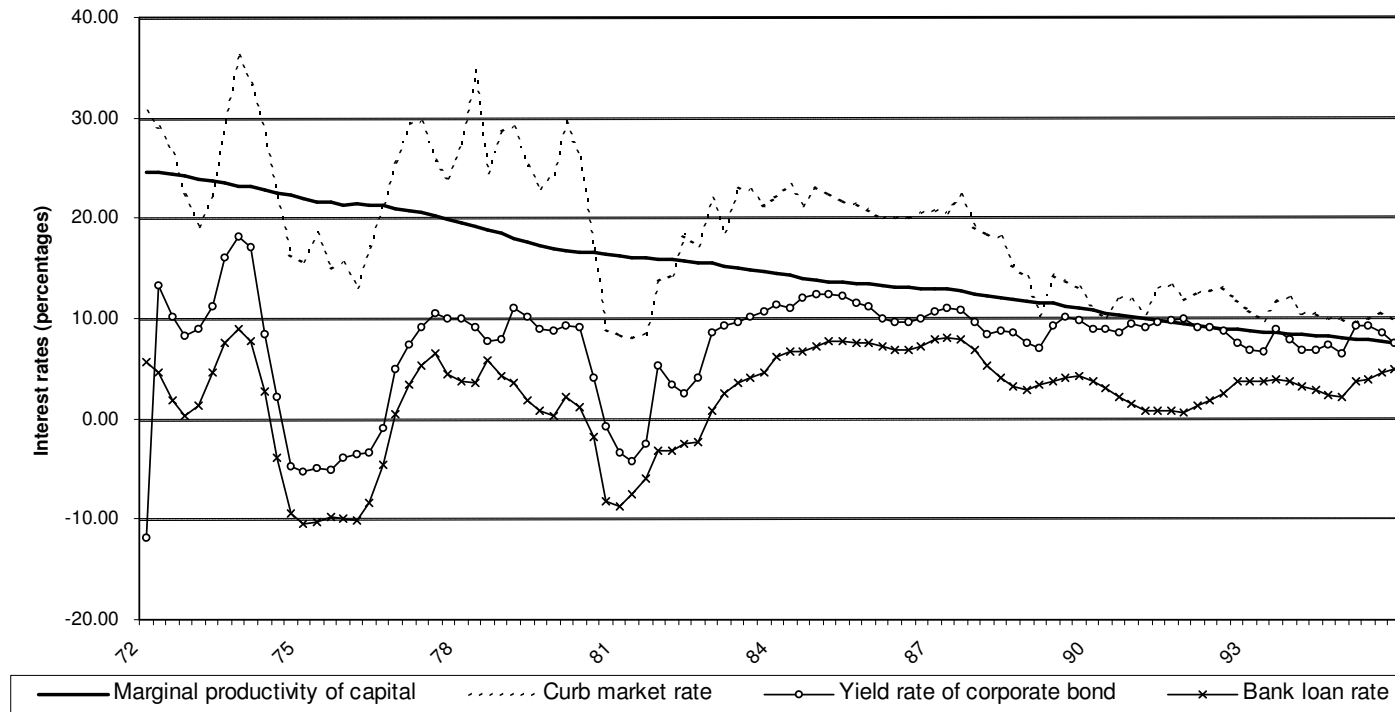
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<sup>2</sup> See Cargill (1999) for a comparison of the Japanese and South Korean financial systems. See Jones and SaKong (1980) and Woo (1991) for examples of the use of state-derived rents for political power building.

The military government under General Park Chung-hee seized control in 1961. After two years of poor economic performance, the government initiated a series of wide-ranging reforms. While in some ways this 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).

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 intensively promoted 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 1). 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

Figure 1 Real Interest Rates



Source: Cho and Koh (1996)

percent of GNP on average between 1972 and 1979 (Pyo, 1989).<sup>3</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, fix the economy, and shore up the generals' political legitimacy.<sup>4</sup> This group 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) saw a diminution in "policy lending."<sup>5</sup>

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<sup>3</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>4</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 early morning economics lesson.

<sup>5</sup> Korea experienced an external debt crisis from bank borrowing undertaken in the wake of the second oil shock. In the interest of brevity, this episode is not discussed in this paper, though it is evident in the data reported in Figure 2.

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." Thus the financial system had to be built around a relatively small number of South Korean banks (**cite figure on their prominence**) 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. Criminal proceedings documented how firms were forced to resort to



bribing officials to bring their initial public offerings to the market.<sup>6</sup> As a result of these policies, corporate capital sourced through bank loans exceeded equity, bonds, and commercial paper combined until the late 1980s (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 routine 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>7</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 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>6</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>7</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.

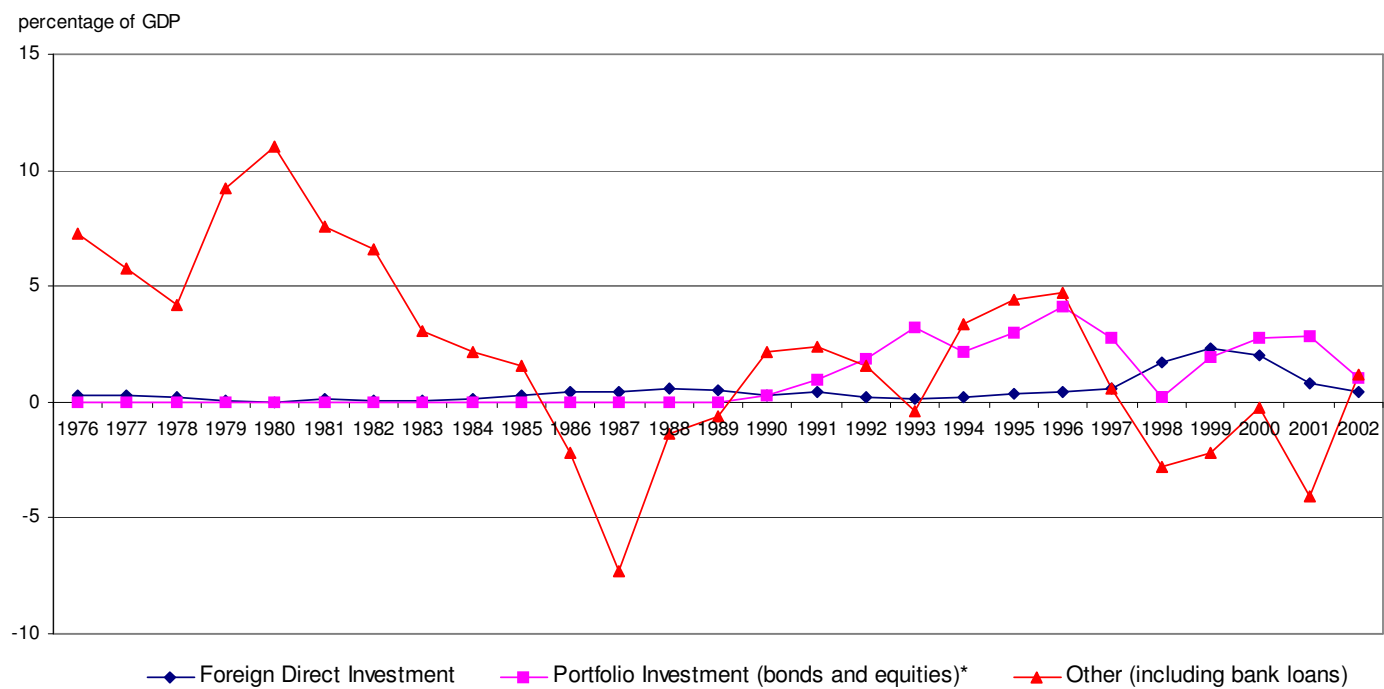
Comprehensive capital controls were used to insulate the domestic financial market from the global market. The local currency, the *won*, was non-convertible and the Korean government discouraged the development of any offshore market in *won* or *won*-denominated instruments. The currency was pegged to the US dollar until the late 1980s, when, under US pressure, it was revalued and its value determined by what might be described as a managed float around an exceedingly narrow band. 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 derisory until a wide-ranging liberalization was undertaken in response to the 1997 crisis (Figure 2). On the eve of the crisis, 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>8</sup> At the time of the 1997 crisis, foreign

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<sup>8</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.

Figure 2 Composition of Capital Inflows



\* Note: Assumed to be zero from 1976-89  
 Source: Balance of Payments Statistics, IMF

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. Bank loans, subject to regulation by the Bank of Korea, were the dominant form of capital inflow.

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 Korean banks.<sup>9</sup>

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.

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<sup>9</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.

## 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 foreign governments promoting the interests of their own financial providers (Figure 3). The outcome of this tension was a political compromise resulting in a gradual, uneven, and ultimately problematic liberalization program that both contributed to and was overtaken by the 1997 financial crisis.

Following the Sixth Five-Year Plan, financial liberalization was reinvigorated in 1993 with the introduction of multiyear financial sector policy plans, the most important of which was promulgated in 1995 and scheduled to run through 1999. 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 Youngsam. 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.

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 regularization of curb market lenders as investment and finance companies. In 1994 merchant banks were created as a new class of institutions with a broader remit, and licenses 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. The merchant banks played a significant role in the subsequent crisis both at home and abroad through connected lending to their *chaebol* owners and reckless investments in Russia and Southeast Asia.

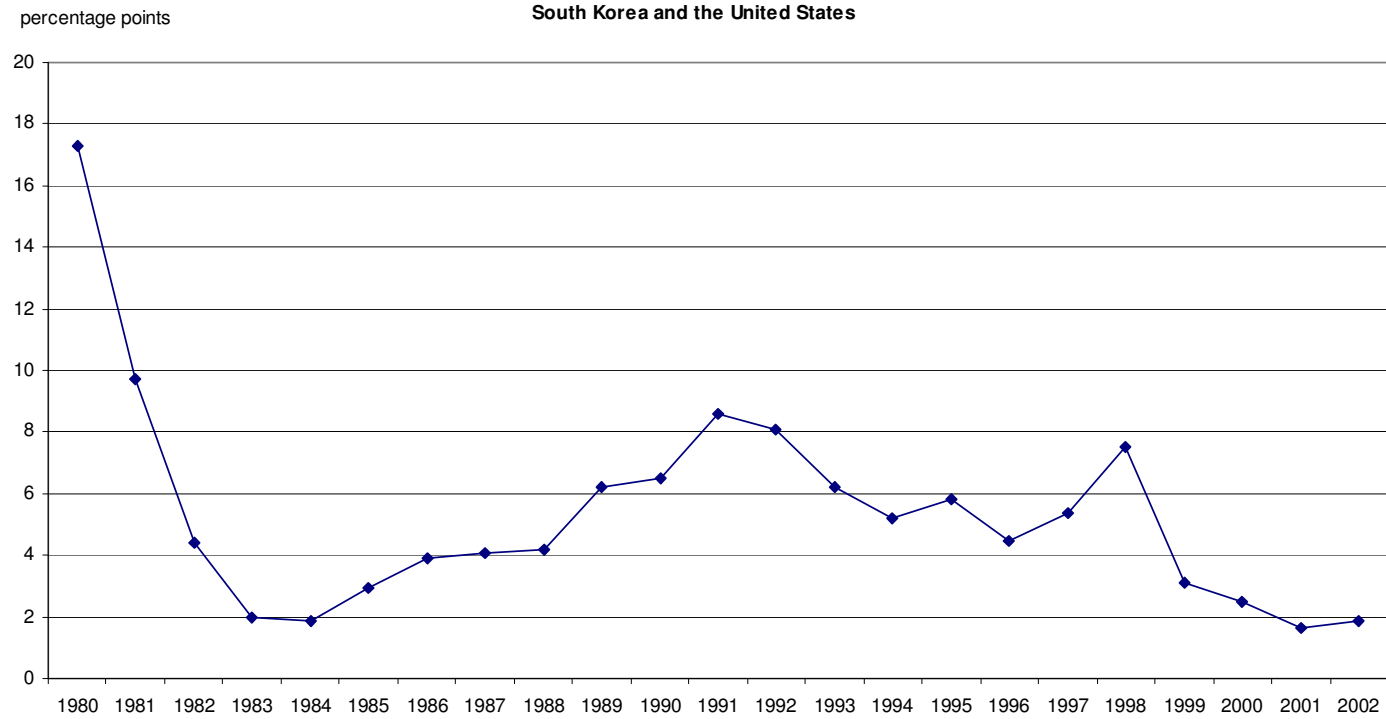
Out of the OECD application process came a multiyear, phased, financial liberalization plan to break down some barriers within the domestic market and liberalize capital outflows before capital inflows.<sup>10</sup> The plan amounted to a continuation of the ongoing liberalization process on a variety 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 5-6 percent) narrowed to 2 percentage points. 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

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<sup>10</sup> See Noland (1996a) for details.

**Figure 3 Spread between Long-Term Government Bond Yields\***  
South Korea and the United States



\*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.

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 January 1997 to propose broad follow-on recommendations for the modernization of the financial system. Needless to say, its recommendations were overtaken by events.<sup>11</sup>

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

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<sup>11</sup> Its reports are summarized in Cargill (1999). A detailed timeline of actual changes in capital controls (as distinct from planned relaxations) from 1985 through mid-1997 is contained in Johnston et al. 1999 Box 5.



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 Korean case, and indeed supporting evidence could be observed contemporaneously. Opportunities for inter-temporal consumption smoothing could be particularly important for a country like Korea where the rate of return on capital during this period was quite high (Figure 1) and the economy was subject to major financial shocks such as the need to finance unification (Noland 1996b).<sup>12</sup> With respect to portfolio diversification, during the period under consideration, foreign investment in the Korean stock market was legally restricted, and in statistical terms

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<sup>12</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.

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 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 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.

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 1). The 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 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. Macroeconomic volatility was higher than in other Asian economies, and data from the

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

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 Korean financial service firms simply could not compete. Some Koreans probably opposed liberalization out of self-interest, since liberalization would erode their privileged position within the 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.” On some level this was undoubtedly true (and irrelevant): the 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 was accompanied by a roughly 40 percent decline in sectoral employment, despite a strong union presence in the industry.

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

A striking aspect of the 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 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) indicates that the optimal policy from a Korean standpoint would have been a mixture of exchange rate adjustment and sterilization. Sterilization may be advisable in the short-run, but it is doubtful 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 are higher than foreign rates, it would be desirable to reduce domestic rates and obtain the benefits of higher investment and growth.<sup>13</sup> Moreover, as *domestic* financial markets became more complex, the ability of the Bank of Korea to

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<sup>13</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.

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 [please check verb tenses].

If it is not possible to adequately sterilize or otherwise offset inflows, and the inflows are going to 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>14</sup> Park (1995) and Park and Song (1996) devoted considerable effort to thinking about this in the Korean context. They raised two possibilities, which they appeared to 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 Korea’s WTO commitments.

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,

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<sup>14</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.

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 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 Korean case.

In any event, 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 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 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 Korean firms were highly concentrated in relatively footloose manufacturing industries and subject to contentious labor relations at home. As a consequence, 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 4). 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 5).<sup>15</sup>

The following year, the government removed restrictions on banks' foreign currency loans, resulting in a massive increase in net foreign currency liabilities (Figure 6). **DEFINE** Moreover, the Bank of Korea applied window guidance to limit medium-

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<sup>15</sup> Further impetus was provided in October 1995 when the government announced that, in the case of direct investments abroad by Korean corporations of \$100 million or more, at least one-fifth of the funds would have to be raised at home.

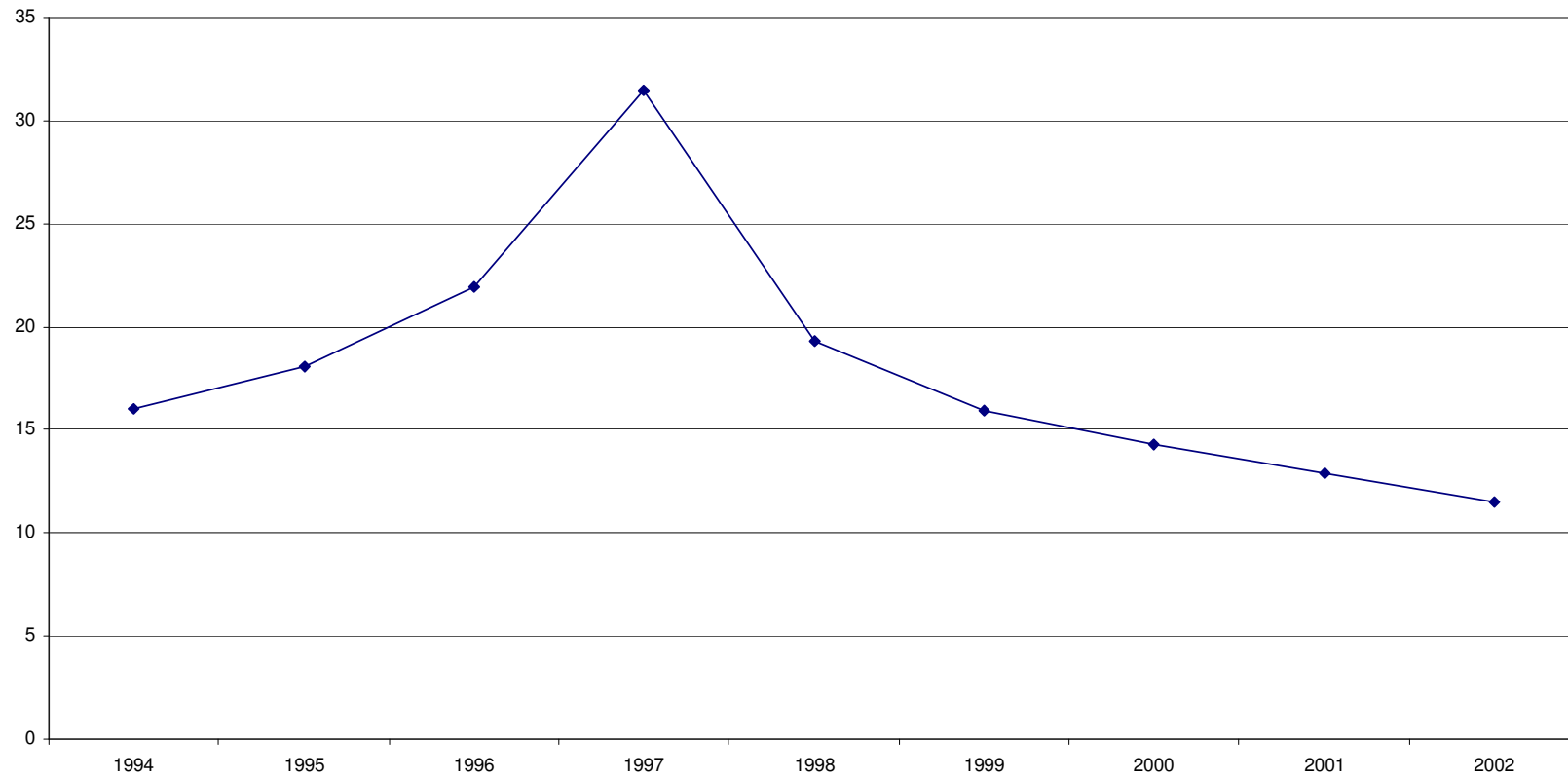
and long-term borrowing on international markets, apparently due to concerns about potential loss of control over domestic financial institutions through debt-equity swaps biasing borrowing toward the short end of the term spectrum (Johnston et al. 1999). Short-term external debt rose from \$40 in 1993 to \$98 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 7). The growth of short-term debt outstripped the growth in usable reserves raising the specter of a liquidity crunch. The ratio of usable international reserves **DEFINE** 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 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 Korea to take the form of short-term bank lending, reinforcing Korean government policy (Johnston et al. 1999). When Korea joined the OECD, the effect was to reduce the risk premium on lending to 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

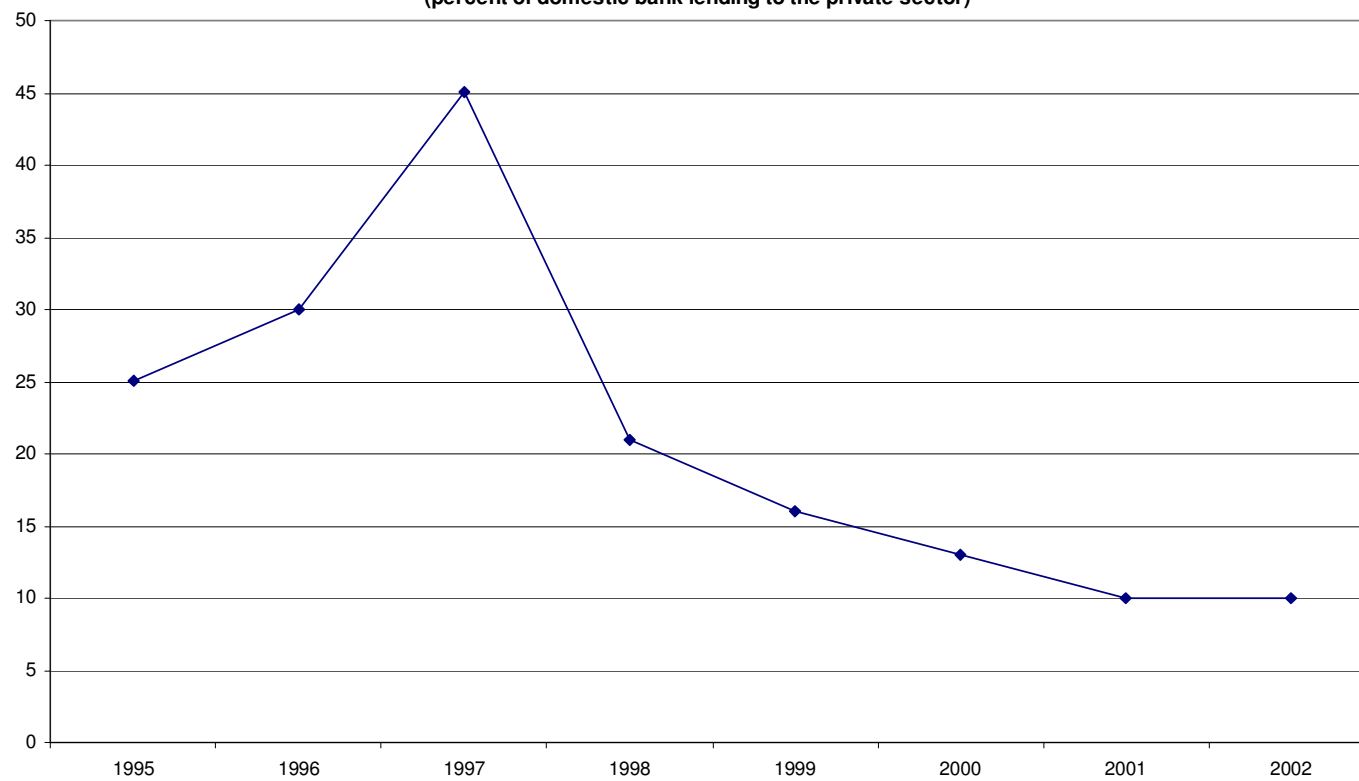


**Figure 4**  
Foreign-currency percentage share of total debt, 1994-2002

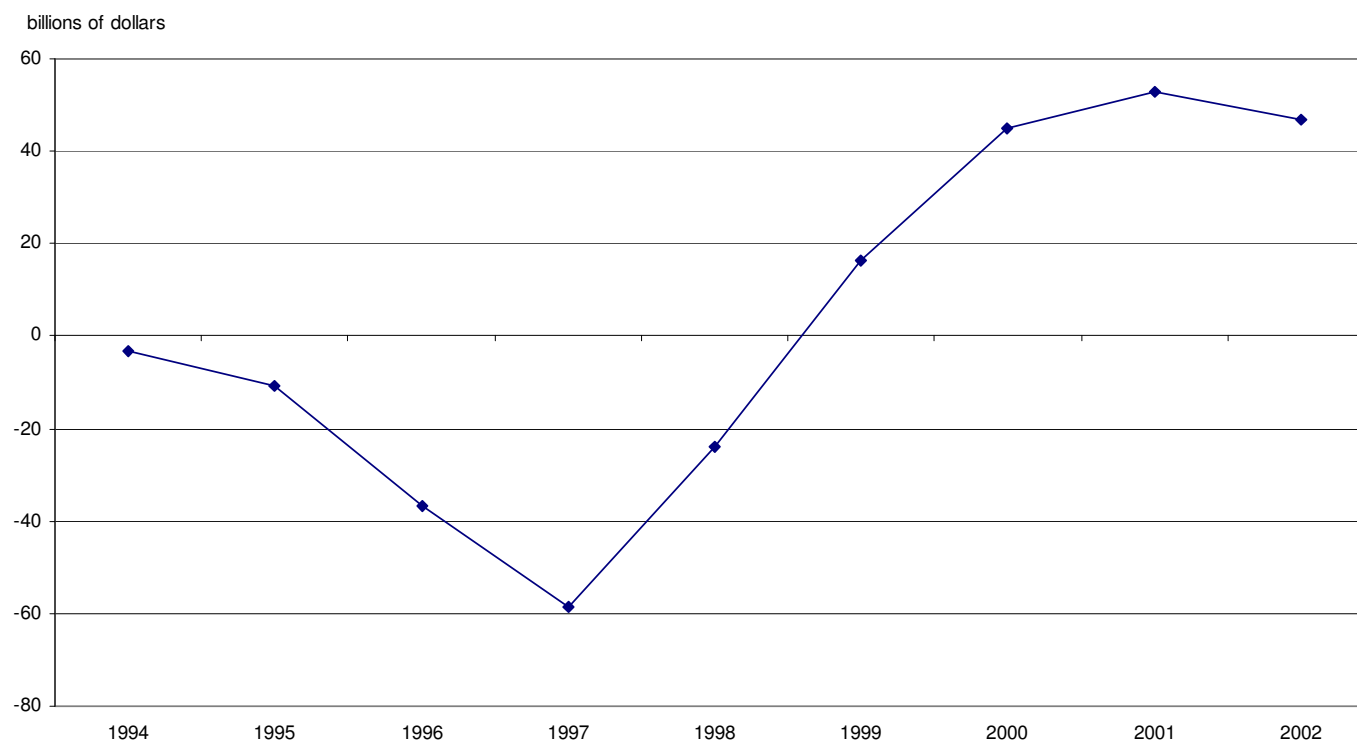


Source: Morris Goldstein and Philip Turner, *Controlling Currency Mismatches in Emerging Markets*. Institute for International Economics. Washington: 2004. Table 4.4

**Figure 5**  
**Borrowing by domestic banks from international banks, 1995-2002**  
(percent of domestic bank lending to the private sector)

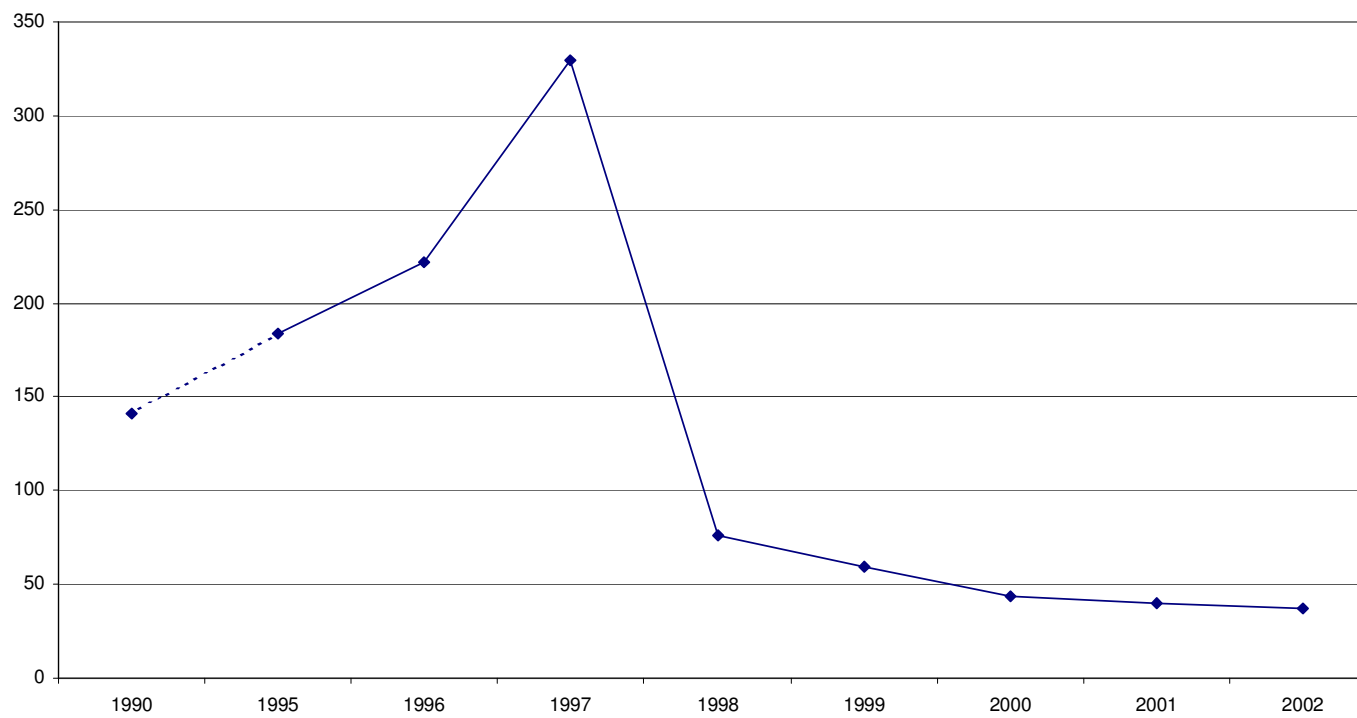


Source: Morris Goldstein and Philip Turner, *Controlling Currency Mismatches in Emerging Markets*. Institute for International Economics. Washington: 2004.

**Figure 6 Net Foreign-currency Assets, 1994-2002**

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

**Figure 7**  
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.

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 8, 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, Korea was both more likely to experience currency devaluation and that such a devaluation would have a severe impact on the economy.

**NEED TO TALK ABOUT REGULATORY VULNERABILITY – in the past lack of training, fragmentation; now derivatives etc**

**CITE ARTHUR ALEXANDER IN SECTION ON POST-CRISIS RESULTS**

**BRIEF DISCUSSION OF THE CRISIS AND RECOVERY – GARGANTUAN**

**LITERATURE CITE NOLAND (2000) for blow-by-blow, COE (2002) for**

**comprehensive review**

**DESPITE INCREASED INTEGRATION INTO WORLD FINANCIAL MARKETS,**

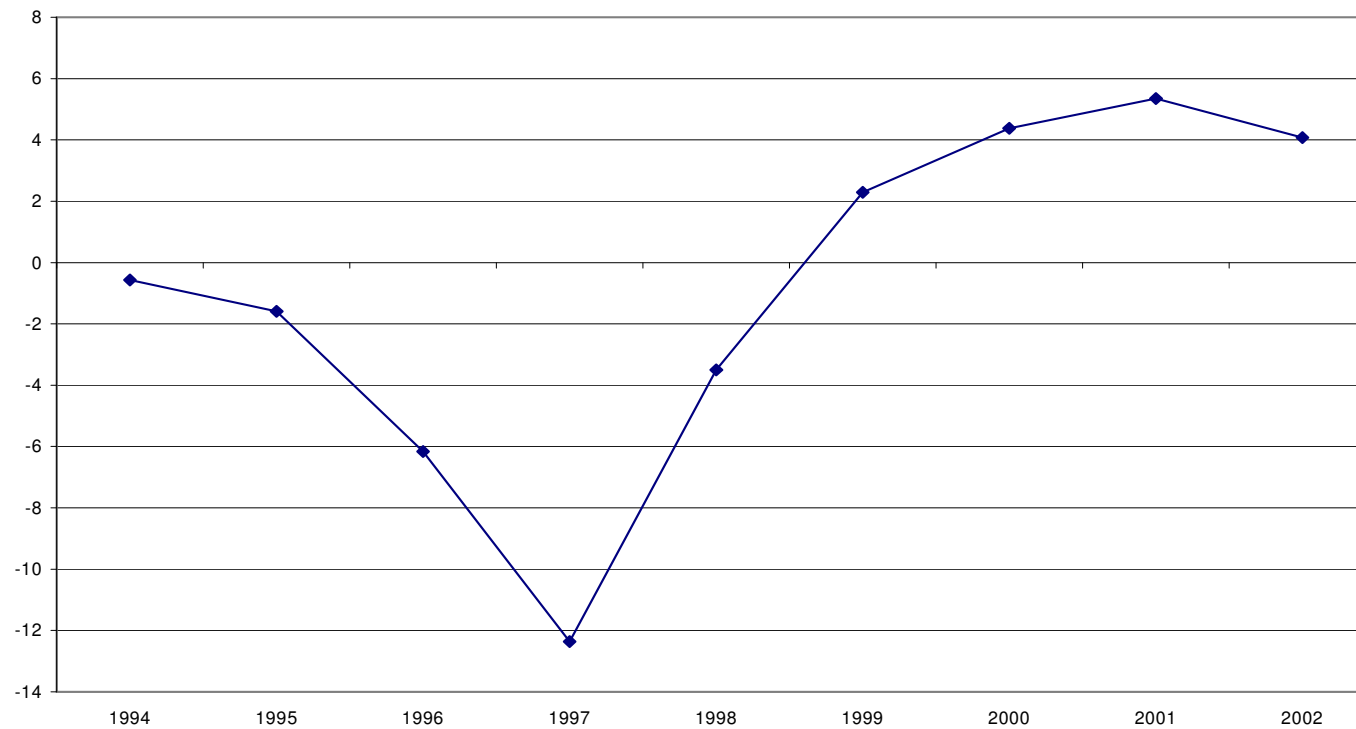
**SPREADS STILL HIGHER THAN PRE-CRISIS**

**INTEGRATE REGULATORY MATERIAL – CHALLENGE IS TO**

**SUCCESSFULLY REGULATE OFF-BALANCE SHEET DERIVATIVE**

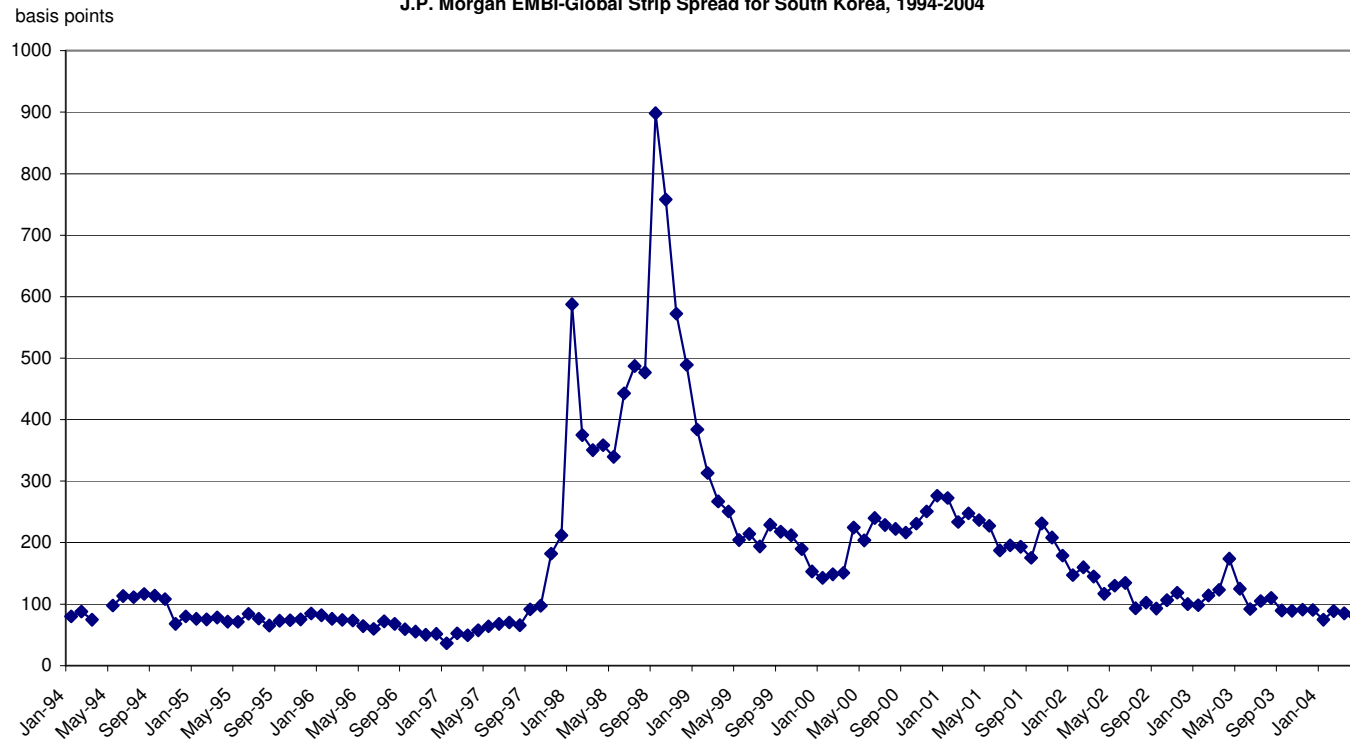
**TRANSACTIONS**

**Figure 8**  
"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.

**Figure 9**  
**J.P. Morgan EMBI-Global Strip Spread for South Korea, 1994-2004**



Source: MorganMarkets, J.P. Morgan