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Credit Policies and the Industrialization of Korea

Yoon Je Cho
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Yoon Je Cho
Joon-Kyung Kim

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FOREWORD

The present report was commissioned as part of the project on the effectiveness of credit policies in East Asian countries. It documents the use of directed credit programs in Korea and highlights the success of the Korean government in working closely with the private sector and monitoring effectively the performance of the programs. The report also notes the risk sharing arrangements developed by Korean policymakers and the flexible adaptation of directed credit programs to the changing needs of the Korean economy. The report also emphasizes the long-term costs of reliance on directed credit programs and the measures that have been taken in recent years to redirect the objectives of the programs and redress the imbalances that have arisen during the high growth and heavy industrialization phase of economic development in Korea.

This report is part of a wider effort to study the effectiveness of credit policies in Asian countries. The support of the Government of Japan for this research program and the cooperation of Korean officials are gratefully acknowledged. The judgments and views expressed in this report do not necessarily reflect the view of the Board of Directors of the World Bank or the governments they represent.

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ABSTRACT

The Korean government has played a pervasive role in promoting industrialization and economic development. Directed credit was a basic instrument of economic policy. In Korea the government directed more than half of bank credit, directly owned all major banks, and controlled their interest rates. Government intervention was effective in Korea because it was predicated on close consultation with industry, was implemented within the context of a competitive business environment with a very strong export orientation, and was closely monitored and evaluated. Export orientation provided objective and observable criteria of success, while close monitoring and consultation permitted the re-allocation of directed and subsidized credits to successful firms and the flexible adaptation of credit policies to the evolving needs of the Korean industry and economy. Korea relied extensively on foreign loans to supplement its initially meager domestic savings, but the government played an active part in authorizing and guaranteeing such foreign funds. An important aspect of Korean intervention was the use of effective risk sharing mechanisms whereby firms facing temporary difficulties received government-orchestrated support from the financial system. Despite the overall success of directed credit programs, their use was not cost free. Major costs of the programs were the underdevelopment of the financial system, the overborrowing of large firms, the concentration of economic power, and the legacy of substantial amounts of nonperforming loans. The relative importance of credit policies has declined in recent years and their emphasis has been re-directed toward small firms in a belated attempt to rebalance the structure of Korean industry and of the Korean economy more generally.

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ACRONYMS

BOK	Bank of Korea
CDs	Certificates of Deposit
DMBs	Deposit money banks
EPB	Economic Planning Board
EXIM	Export-Import Bank of Korea
GDPs	Gross domestic products
HCI	Heavy and chemical industries
IMF	International Monetary Fund
ISP	Import Substitution Policy
KDB	Korea Development Bank
KDI	Korea Development Institute
KEB	Korea Exchange Bank
KFI	Korea Federation of Industrialists
KOTRA	Korea Trade Promotion Corporation
KTA	Korea Trader's Association
MIPF	Machinery Industry Promotion Fund
MOF	Ministry of Finance
NBFIs	Nonbanking financial institutions
NIF	National Investment Fund
NPLs	Nonperforming loans
POSCO	Pohang Iron and Steel Company, Ltd.
SCPs	Selective credit policies
SMCs	Small and medium-size companies
USAID	U.S. development agencies

EXECUTIVE SUMMARY

The remarkable success of East Asian economies has resuscitated old debates about the government's role in economic development. Government intervention in credit markets is at the core of this debate—whether "directed" credit policies can help promote industrialization and growth in the early stages of economic development. Korea is among the more successful of East Asian economies, and Korea's government has played a particularly pervasive role, especially in credit markets. In Korea, the government directed more than half of the bank credit, directly owned all major banks, and controlled their interest rates. Furthermore, the government controlled the allocation of foreign loans. Did its ubiquitous economic policy spur the rapid industrialization and growth of Korea during the last three decades?

The Korean experience has many implications for other developing countries. When Korea embarked on its industrialization process in the early 1960s, it had a weak industrial base and little accumulated capital or technology. In the 1950s, many observers termed the Korean economy "hopeless." It was an aid-dependent economy and its per capita income lagged behind many sub-Saharan countries, including Kenya and Ghana, not to mention most Latin American countries. Korea is one of a few countries (along with Taiwan (China)) that grew from an impoverished country into one whose industrial strength rivals the strength of advanced industrialized countries.

The Korean financing and developmental experience suggests that the government can play an important role in laying the groundwork for rapid industrialization in the early stages of economic development. If government involvement in the credit allocation is predicated on close consultation with industry, and if it is implemented within a competitive business environment, it can be reasonably successful at overcoming financial market imperfections, thereby fueling rapid industrialization. In the presence of a poorly developed risk capital market, the Korean government exerted its control over financing—and particularly over banks—and coordinated a close relationship with banks and industry and thus became an effective risk partner of private industry. This implicit co-insurance scheme among the government, banks, and industry allowed the credit-based economy and its highly leveraged corporate firms to explore risky investment opportunities and to operate without major financial crises. It is perhaps this government risk partnership with private industries that was the primary determinant of rapid industrialization, rather than the sheer size of selective credit programs or interest rate subsidies per se.

But the Korean experience also suggests that the cost of this approach can be substantial and can grow larger with economic progress. Although the Korean economic strategy

spurred rapid industrialization, it impeded the development of an efficient banking system. The government's risk partnership with industrial firms placed a heavy burden on the banking system by loading them with large nonperforming loans (NPLs), and raised social equity issues. Extensive government intervention in financing, especially the low interest rate ceilings, slowed the growth of financial savings. Korea was able to overcome these negative consequences of government intervention by relying heavily on foreign borrowing—a strategy whose success was predicated on Korea's special relationship with the United States and Japan, which gave the country ready access to foreign finance. Furthermore, the perpetuation of government intervention in the allocation of credit when the industrial sector was well established and economic organizations had become sophisticated increased the risk of distortive allocation. The co-insurance scheme among the government, banks, and industry fostered moral hazard among banks and firms, despite nurturing entrepreneurship and expanding industrial investment.

Overall, the Korean experience suggests that a case can be made for government intervention in credit markets in the early stages of economic development. However, government intervention in those markets may also carry with it substantial costs. The balance between the role of government and market forces should be made in recognition of the financial market conditions, industrial structure, and political and international environment that face a country at the outset. Moreover, as economic development advances, the role and scope of government intervention must be reappraised with a view toward fostering a greater reliance on market forces.

The political economy of Korea and financial sector policy

The Korean approach to economic development can be understood better in light of the dominant views of the political leaders and technocrats who shaped policy strategy in the 1960s. Korean policymakers had taken the cues from prewar Japan to form their view of the role of government in economic development. But when they designed the specific policy measures, they were influenced heavily by advisers from U.S. development agencies. The modern financial system was introduced and some industrial base was built during the Japanese colonial period, but it was largely destroyed during the Korean War. As a strategic linchpin in the framework of postwar world security, Korea had access to a large amount of grants-in-aids and technical assistance from the United States. Consequently, institution building and the shape of the political and economic system of postwar Korea was strongly influenced by American thought. As part of its developmental strategy, Korea implemented price reforms in the 1960s to adjust its relative prices, but its style of economic management resembled the Japanese mode—close involvement in and monitoring of the business sector by the government.

The Korean concept of national welfare was predicated on having strong industries and national defense, as was true in prewar Japan. From the beginning, economic development was linked to industrialization, particularly given Korea's poor endowment of land and

resources. Political leaders and economic policymakers did not really understand market forces or modern economic theory. As they shaped their initial concept of industrialization, their immediate thought was how the government could be used to mobilize funds and support industrial investment. They wanted to control the behavior of industrialists in an effort to make their economic activities conform to national interests. Consequently, they needed governance control tools; "control over finance" became the major policy instrument for effecting the decision-makers' concept of industrialization.

However, pursuing and sustaining this policy stance—that is, financial repression—was possible only with ready access to foreign capital, since domestic savings were well below desired investment levels. Crucial to gaining such access were the special relationships between Korea and the United States and Japan, and the recycling of oil money through Eurobanks in the 1970s. Otherwise, Korean policymakers would have had to rely more on market-driven financial policies to enable the financial sector to mobilize greater domestic funds, or simply would have had to contend with lower economic growth.

The turning point in Korean economic development was the 1960s. Park Chung-Hee, a military general trained in Japanese military academy, took over the government in 1961, and his regime continued until 1979. He mobilized national consensus and energy for the "escape from poverty" and the "industrialization of the country." He motivated people, restlessly monitored the progress of each development project (both public and private), and used carrot and stick to govern industrialists. His authoritarian regime is criticized for delaying the political democratization of Korea, but he effectively protected the implementation and management of economic policies from being affected by the interests of political factions. Under his leadership, he steered economic policies, including credit policies, away from the short-sighted, or even more pervasive intervention in financial allocation. Under Park, the policy of financial repression had clearly defined goals and was integrated closely with other policy measures. The economic management style that ensued from his leadership came to be labeled "Korea, Inc."

The industrial and macroeconomic policy

Credit policy is formulated as part of development strategy; as such, its effectiveness is determined within the overall structure of industrial and macroeconomic policy. Korea's credit policies were well coordinated with its industrial policies. Korea wanted to pursue industrialization, and it realized that, given its small domestic market but relatively well-trained human resources, it could do so only by adopting an export-oriented strategy. Credit, industrial, and macroeconomic policies were all geared toward this goal. Compared with many other developing countries whose credit policies are oriented primarily toward redistributive purposes (or which lack a clear focus, so that almost all sectors are targeted, which is tantamount to targeting none), Korean credit policies were sharply focused on promoting exports and provided the support necessary to enable industry to pursue this goal.

Unlike Japan, Korea relied heavily on central bank credit to implement its directed credit policy, and, as such, often risked undermining macroeconomic stability. But it did not ignore the ramifications of this policy. Korea was not particularly successful in maintaining macroeconomic stability as were Japan and Taiwan (China). But inflation was moderate and real effective exchange rate was kept stable most of the time. When the competitiveness of Korean exports was seriously jeopardized, the government strengthened monetary and fiscal control to reduce inflationary pressure and/or revalued the exchange rate.

Overall, relative prices were mildly distorted in Korea. The exchange rate was kept competitive, and domestic price controls were limited. The export orientation and the absence of a state monopoly provided a competitive environment for industrial firms. Interest rates were repressed and were accompanied by substantial subsidies, especially for export loans, but they too did not stay significantly negative for long, since inflation was moderate in most periods. A comprehensive economic package of trade, tax, and financial reform was implemented during 1964-66 to reduce the price distortions prevailing in the economy, laying the groundwork for high economic growth afterward. However, this "getting the prices right" effort was matched equally by a stronger effort by government to monitor and manage the resource allocation of the economy by solidifying its control over banks.

The evolution of credit policy

Korea's credit policies responded effectively to changes in industrial policy over time. The government adjusted its directed credit programs to meet the imperatives of the business sector and did so in close consultation with industrial leaders. It created new credit programs to channel financial resources toward new industrial opportunities, while deemphasizing old programs with a different orientation.

In the early 1960s, the government adopted several measures to strengthen state control over financing. In particular, it nationalized commercial banks and, in an amendment to the central bank act, subordinated the Bank of Korea (BOK) to the government. It also doubled the level of bank interest rates in 1965 to mobilize financial savings through the government-controlled banks. This interest rate reform, which has been termed as financial liberalization by many observers, rapidly expanded deposits in the banks, shifting funds from the informal credit market. But it also enabled the government to enhance the scope of its control over financial allocations, as the funds shifted from an unregulated to a regulated sector.

Control over interest rates and credit allocation in the 1960s (the take-off stage of economic growth) was no more repressive than it was in the 1950s. The difference was in how the policies were managed. To promote its export-led growth strategy in the 1960s, the government initiated close consultation with the business sector and monitored the performance of development projects rigorously. Chaired by the president, *monthly export promotion*

meetings and monthly briefings on economic trends constituted a forum for ministries and the private sector to monitor the progress of economic policy and to build consensus on ways to address emerging problems. This style of economic management resembled the operational mode of a corporation—in this case, *Korea, Inc.* Within this management partnership, banks served as the *Treasury Unit*, the industrial sector as the *Production and Marketing Units*, and the government as the *Central Planning and Control Unit*.

The size, structure, and sources of policy loans

In Korea, policy-oriented loans captured a large share of the total credit available in the economy. In the 1970s, they comprised about half of the total credit offered by domestic financial institutions (although gradually declining to about 30 percent of total credit in the 1980s, with the expansion of nonbanking financial institutions (NBFIs), which were not required to make policy loans.) However, policy loans from deposit money banks (DMBs) comprised about 60 percent of total loans throughout the period.

Throughout much of the high growth period, policy loans went primarily to the manufacturing sector, at first to spur exports and then to support the drive toward expanding heavy and chemical industries (HCIs). In 1970 and 1980, for example, the manufacturing sector received 46 percent and 54 percent of total bank loans, while the service sector received 29 percent and 24 percent, respectively. The manufacturing sector's share in bank credit was more than twice its share in gross domestic product (GDP); the service sector's was only about 60 percent. Later in the period, as industrialization was achieved and growth stabilized, policy loans were targeted at boosting other sectors of the economy—small and medium-sized corporations, housing, and agriculture.

These directed credit policies in Korea differed significantly in one respect from those in Japan and Taiwan (China)—the source of the policy loans. Korea depended heavily on central bank credit and deposits mobilized by DMBs, and much less on fiscal funds or government mobilized funds, such as postal savings. Among total policy loans extended by Korean DMBs, only 7 to 8 percent were financed with fiscal funds. Conversely, about 35 percent of total DMB policy loans were financed with central bank credit. As such, the central bank's discount policy was the major tool for guiding commercial bank loans toward strategic sectors, and policy-directed loans relied heavily on money creation. This directed credit policy is why Korea had less price stability than did Japan and Taiwan (China).

The role of foreign capital

Many observers overlook the role of foreign capital in shaping the economic policies and development of Korea. But given domestic savings that were far below the desired investment levels, foreign capital was essential to economic growth. The average economic

growth rate during 1962-82 was 8.2 percent. Had investment depended totally on domestic savings, the average growth rate during the same period might have been only 4.9 percent. Without ready access to foreign capital, Korea could not have continued to pursue its economic policy of financial repression which limited the mobilization of financial resources in pursuit of industrial development.

As with domestic credit, the government also tightly controlled the allocation of foreign loans so as to support its industrial policy goals. All foreign loans had to be authorized by the government, and were allocated according to their importance to industrial policy. In 1965, the government revised the Foreign Capital Inducement Act to allow government-controlled banks to provide guarantees for the repayment of foreign loans to firms, thus facilitating the inflow of foreign capital and technology. However, it also allowed the government to perpetuate its intervention in the banks. The government had to reschedule domestic bank loans to absorb the external shock to domestic firms that made it difficult for them to make foreign debt service; in the absence of such government control over financing, defaults on foreign loans would have led to major disruptions in financing for development projects. In turn, however, the cost of government intervention in domestic banks had to be borne by depositors.

The effectiveness of credit policies in Korea

In Korea, the effectiveness of credit policies at promoting economic growth extends to two broad areas: their contribution to the growth of industries or sectors by ensuring access to cost subsidies and capital, and their contribution to industrialization by motivating private entrepreneurship within the framework of the government's risk partnership with the private sector.

Korean credit policies were effective at reducing the cost of and enhancing access to funds for private sectors. Export-oriented firms had greater access to credit and lower borrowing costs than did domestically-oriented firms. HCIs also had greater access than did the light manufacturing industry, due largely to their large credit supports, including various policy loans, despite the high risks associated with HCI investment. The general assessment is that these credit policies fueled the rapid expansion of these sectors, especially in their take-off stage.

However, the evidence does not necessarily imply that directed credit support was essential to rapid economic growth in Korea, since the opportunity cost of such supports cannot be estimated. For this, we need a general equilibrium analysis. But since many input and output prices were controlled in Korea in the early stage of development, the general equilibrium analysis also has limitations. At the same time, it is too early to determine the full influence of credit policy in Korea, since its economic development is still in progress, and the

cost of past financial policies may not yet be realized fully. Thus, we can provide only a qualitative judgment.

The general consensus is that exports were the main engine of Korean economic growth in the 1960s and 1970s. To the extent that credit support was indispensable to the growth of exports (which seems to have been the case), credit support must have contributed to Korea's rapid economic growth; yet, whether that extent of the subsidy was necessary to kick-off export growth is open to debate. The effect of credit policy on the growth of HCIs is a more controversial subject. Although credit support contributed to the rapid development of HCIs, the credit might have been used more efficiently had it been allocated more equitably between the HCI and light industry, particularly given the labor endowment in the 1970s. But in the mid-1980s, the HCIs became the leading export industry in Korea, and many doubt whether, had Korea not built HCIs in the 1970s, it would have been able fully to take advantage of the appreciation of the Japanese yen and the world economic boom in the second half of the 1980s. However, this question cannot be answered definitively.

The impact of credit policies on industrialization is not limited to their impact on the cost of and access to credit. In an economy such as Korea's, in which the accumulation of capital was initially poor and rapid investment growth had to be financed primarily with bank credit and foreign loans, the financial structure of firms was highly leveraged. In such a credit-based economy, major economic downturns would create financial crises in the absence of some risk sharing schemes between creditors and borrowers. By controlling financing, the Korean government could become an effective risk partner with industrialists and could motivate their risk venture and entrepreneurship. It could induce the industrialists to take the longer-term business perspective. In other words, the government's implicit co-insurance scheme with banks and industry provided a risk partnership that enabled Korea to establish large, internationally competitive industrial firms within a short period of time. This indirect impact of government credit policies may have been a more important factor than the credit subsidies per se for explaining the rapid industrialization of Korea.

Costs and legacy

Although financial control strengthened the government's hand for implementing industrial policy and fostering competitive industrial firms rapidly, it also had its costs—costs that were borne heavily by banking institutions and depositors. Commercial banks in Korea were involved so heavily in directed credit programs that they almost functioned as development banks. In the process, their managerial efficiency and the quality of their services were sacrificed, and they were also saddled with a huge amount of NPLs. Repression on the banks soon gave rise to NBFIs, which were allowed to operate more freely and soon superseded the banks' share in the intermediary market. But to some extent, the expansion of NBFIs helped

improve the operation of the financial market by keeping competitive forces alive in the financial system that otherwise could have been overly repressed.

The moral hazard for commercial banks was no less serious than their weak financial structure. As long as the government was willing to rescue firms, banks did not have to pay much attention to screening projects and monitoring firms. Government-supported firms became too large and dominant to go bankrupt, making it increasingly difficult for the government to break out of its vicious cycle of financial repression. When economic expansion and the growing sophistication of the industrial structure in Korea called for a more innovative and market-oriented financial sector, the past legacy became a constraint against liberalization.

As industrial policy emphasized economies of scale to maintain the international competitiveness of Korea, economic power became concentrated within the Chaebols, raising social equity issues. It was not uncommon for the Chaebols to triple the number of their affiliates with new acquisitions in heavy and chemical sectors during the period of HCI drive. But growing public discontent about economic concentration forced the government to redirect its policies toward the redistribution of income, a process that often necessitated increasing regulations on the business activities of large firms.

A comparative perspective and possible lessons

Using financial policies and directed credit to support industrial development is not unique to Korea; the practice is found in almost all developing (and even industrial) countries. But the experience in most developing countries has not been encouraging. What made credit policies more effective in Korea than in other developing countries? Although we do not have a full answer to this question, we provide several possible explanations from a comparative perspective.

Korean credit policies were well coordinated with other economic policies, consistent with long-term economic development plans, and policy implementation was subject to less political abuse than in other countries. In Korea, various policy measures, including credit supports, tax incentives, and foreign loan allocations, were integrated closely with industrial policy goals. In many other developing countries, credit programs are often used for political ends, and, as such, their sheer size and the heavy subsidies they provide, simply provide opportunities for rent-seeking. In Korea, a favorably managed macroeconomic environment was also conducive to achieving industrial policy goals; in other developing countries, macroeconomic management is often weak. And although the large support of directed credit programs by the central bank generated inflationary pressures, the government's reasonably balanced fiscal budget enabled it to maintain monetary control. In general, exchange rate policies in Korea provided competitive and stable real exchange rates, which were critical

to Korea's export-led growth strategy. Wage policies ensured that real wages were in line with the growth of productivity.

The success of the Korean economy also owes to strong market competition among private firms. Unlike other developing countries, the Korean government, while strictly controlling financing, secured a competitive environment for business activities. Specifically, the export-oriented growth strategy provided effective performance tests for firms. Korea could discipline domestic firms by pushing them toward international competition, and linking credit support to their success in foreign markets. This tactic reduced the risks associated with an interventionist approach, and brought tremendous externalities and learning effects that accelerated growth. The strategy to keep competitive forces alive in some segment of the financial system (that is, by fostering the emergence of NBFIs) might also have been a safety valve for the government to continue repression of the banking sector. When government intervention was excessive, this less-regulated sector expanded, overtaking the role of the more heavily regulated sector.

Perhaps most important, political leadership, managerial and administrative skills, and appropriate institution building bolstered the effectiveness of credit and industrial policy implementation. The government adjusted credit policies and restructured specific programs frequently in close consultation with the private sector. The government did not simply establish credit programs; it ensured the successful operations of the supported firms and projects by monitoring and consulting with them closely, and entering into risk partnership with them.

Korean economic success is also due to good luck. Korea had good access to foreign loans and financed a substantial part of its investment with foreign capital. A favorable external environment and Korea's special relationship with the United States and Japan gave it easy access to foreign borrowing. When the United States aid declined in the early 1960s, the Vietnam War and the rapprochement with Japan supplemented the foreign exchange necessary for industrialization. Rapprochement with Japan in 1965 brought a large influx of capital and technology when the international commercial loan market was functioning poorly. The recycling of oil funds since the mid-1970s also allowed Korea to pursue risky, capital-intensive industrial projects, despite relatively low domestic savings and a heavily repressed financial system. As mentioned earlier, without such access to foreign loans, Korea might not have continued its repressive but effective credit policies, or might have experienced much lower economic growth with lower domestic investment. Consequently, most developing countries might not be able to follow Korea's economic development strategy under the current international financial environment.

The Korean experience suggests that the cost of this strategy can be substantial and can be exacerbated by economic progress. The Korean strategy was effective at achieving rapid industrialization, but it thwarted the efficient development of the banking system. The

government's risk partnership with industrial firms put a heavy burden on the banking system with large NPLs, and raised social equity issues. The extensive government interventions in finance, especially the low interest rate ceilings, slowed the growth of the financial sector. Korea was able to overcome this negative impact of government intervention through heavy foreign borrowing. Furthermore, the continuation of strong government intervention in credit allocation when the industrial sector was well established and economic organizations became sophisticated put itself at a greater risk of distortive allocation. The co-insurance practices between the government, industry and banks, fostered moral hazard of banks and firms. Consequently, the government became captive of a vicious circle of interventions later. The cost of past approach still has to be borne by the economy and its legacy remains a burden for future economic management. In this respect, the Korean approach to credit policies has not gone through a full circle yet.

INTRODUCTION

The role of government in economic development has long been debated, and government intervention in credit markets is at the core of this debate. This is particularly true given the success of East Asian economies, whose governments have intervened extensively in the financing of industrial development. Among the more successful East Asian economies is Korea's, whose government played a particularly pervasive role, especially in the financial markets. In Korea, more than half of bank credit was allocated under various directed credit programs;¹ all major commercial banks and specialized banks were owned directly by the government; and interest rates were tightly controlled so as to keep them significantly lower than market rates. Furthermore, the government tightly controlled the allocation of foreign loans.

The experience of Korea in the last three decades has many implications for other developing countries, perhaps more than does the experience of postwar Japan. "Reconstruction" rather than "economic development" may be a more appropriate description of Japan's postwar economic success. Japan had already developed a strong industrial base, financial system, and advanced technology during the prewar period; its planes and ships fought against those of the industrial giants in the 1940s. When Korea started its economic development process in the early 1960s, it had a small industrial base, and little accumulated capital or technology. The postwar division of the country severed what little industrial link existed between the North and South, and the Korean War almost completely wiped out any remaining industrial base and capital. Until the early 1960s, per capita income lagged behind that of many African countries, including Ghana and Kenya, not to mention most Latin American countries. Korea is one of the few countries (along with Taiwan (China)) that grew from a poor, starving country into one whose industrial strength rivaled advanced industrialized countries.

Assessing the impact of any specific policy measure on growth and industrialization is difficult, especially government financial sector policy. The causal patterns are too complex and intertwined; the dynamics of the intervention effects are too difficult to identify; and the available data are too weak to provide any solid statistical evidence. Thus, we have to rely on analytical insight and evaluative judgment from an understanding of the overall social and political environment, and the thrust of policy measures. This is the approach taken in this report.

As in other countries, financial sector policy in Korea cannot be discussed independently from the historical, political, and international environment facing the country. The ordinary people's perception of the role of the state and the prevailing political leaders'

¹ If bank loans implicitly directed by the government through "directives," "administrative guidance," or other ad hoc measures are included, policy-directed loans were more extensive.

economic philosophy are embedded in the historical and social environment of a country. Specific policy options are determined in the context of domestic and international political economy. The take-off of the Korean economy and the supporting policy measures can be understood better in light of the dominant views of its political leaders and technocrats in the 1960s. Most of these individuals were educated during the prewar Japanese occupation period. Korea's strategic position in the world security structure during the cold war was also important, since the country received large grants-in-aids and technical assistance from the United States.

The first section of this report discusses the political economy of financial sector policy in Korea. The Korean concept of national welfare in its early stage of economic development was predicated on having strong industries and armies (Bu Guk Gang Byung), as was true in prewar Japan. From the beginning, economic development was linked to industrialization, particularly given the poor land and resource endowment of Korea. Political leaders and economic policymakers did not really understand market forces or modern economic theory. When they thought of free capital markets, they thought of credit monopolies and the proliferation of nonproduct-oriented service sector. When they conceived of their industrialization plan, they immediately sought to use the government to mobilize funds and support industrial investment. They wanted to control the behavior of industrialists, so as to force them to direct their economic activities toward national interests. Consequently, they needed governance control tools, and "control over finance" soon emerged as the major policy instrument. But, because domestic savings were well below desired investment levels, a repressive financial policy was possible only with ready access to foreign capital. The special relationship between Korea and the United States and Japan, and the recycling of oil money through the Eurobanks in the 1970s, gave Korea the necessary access to foreign capital.

Section 2 discusses the overall macroeconomic and industrial policy framework within which financial sector policy operated. Evaluating the effectiveness of financial sector policies at fueling economic development does not make sense by itself. Rather, their effectiveness must be seen in conjunction with the overall policy environment and in light of all policy measures to support industrialization. As only one of many policy instruments, directed credit programs to support manufacturing development would not have been effective had Korea's trade and tax policies not been well structured, and if exchange rates were heavily distorted. Moreover, the effectiveness of the directed credit policy must be assessed in light of the government's justification for and commitment to implementing them. If credit programs are used primarily for political ends, their sheer size and heavy subsidy would by no means suggest that they are effective; it would in fact merely provide opportunities for rent seeking. Also directed credit programs should be just that: targeting all sectors is equivalent to targeting none.

Section 3 outlines the evolution of credit policies in light of how the political environment and industrial policies emerged. Korean credit policies were oriented toward

promoting exports without sectoral bias in the 1960s. However, with the drive toward HCI development in motion in the 1970s, credit policies were geared toward HCI investment. In the 1980s, the government wanted to reduce its policy of credit intervention, but was forced to perpetuate its intervention in order to restructure depressed industrial firms. Government had become captive to the intervention cycle. Meanwhile, along with political democratization in the late 1980s, the structure of policy-based loans changed, giving greater emphasis to social programs and the redistribution of income. The structure of the financial market also changed with the rapid expansion of NBFIs, which were relatively free from heavy government intervention.

Section 4 discusses the size and structure of policy loans, their sources of funding their distribution, and the financial institutions involved. It shows that, when compared with Japan and Taiwan (China), policy-based loans in Korea were more pervasive and relied heavily on central bank credit. Consequently, Korea had higher inflation than her two neighbors.

Section 5 discusses government policy on foreign loans, and their size, allocation, and contribution to industrial financing. The availability of foreign loans allowed the government to continue its repressive financial policies: on the other hand, the heavy foreign borrowing by private firms that was guaranteed by the government constrained domestic credit policies. The government had to supply adequate finance to enable foreign-financed projects to operate successfully.

Section 6 discusses the effectiveness of financial policies at fueling industrialization—their effectiveness at establishing and sustaining the growth of targeted industries; their effectiveness at securing the compliance of industrial firms with government policies; and their effectiveness at managing risk in the credit-based economy. Korea's credit policies did support the take-off of the export drive in the 1960s, and spurred the Korean industrial structure toward HCIs in the 1970s. The immense financial support was crucial to growth, as exemplified by the Pohang Iron and Steel Company, Ltd. (POSCO), a case study of how a Korean industry was established and developed successfully. The section also discusses the August 1972 Emergency Measure to bail out financially troubled firms in a world recession, to illustrate the government's strong risk partnership with the industrial sector.

Section 7 discusses the cost and legacy of the heavy government credit intervention. Any policy measures can have both positive and negative impacts. If Korea's policy intervention in the credit system helped spur the rapid emergence of industrial giants with international reputations, its costs were borne by financial institutions which were saddled with by NPLs, and by their depositors. The legacy of these financial policies still affects the efficiency of the Korean financial sector, and led to problems of economic concentration. It also nurtured the weak financial structure of industrial firms, thus making them vulnerable to economic recession and dependent on government credit support.

Using financial policies and directed credit to support industrial development is not unique to Korea. It is common in almost all developing (and even industrial) countries. What made credit policies more effective in Korea than in other developing countries? Section 8 provides several explanations in a comparative perspective. Overall, Korea's macroeconomic and industrial policy environment was favorable. Korean credit policies were also better structured and less politicized than those in other countries; Korea had a clear goal of what it wanted to achieve with its credit policies. Perhaps most important, management skills in the administration, political leadership, and appropriate institution-building contributed to the effective operation of credit and industrial policy. Export orientation and internal competitiveness among large private firms provided a basis for selecting who among borrowers would be entitled to continued credit support. The strategy to keep competitive forces alive in some segment of the financial system might also have provided a safety valve—when government intervention was excessive, less-regulated NBFIs expanded rapidly, overtaking the role of the more heavily regulated sector. Finally, a favorable external environment and Korea's special relationship with the United States and Japan, giving Korea easy access to foreign borrowing, allowed Korea to continue its repressive financial policies.

1. THE POLITICAL ECONOMY OF KOREA: IT'S RELATIONSHIP TO FINANCIAL SECTOR POLICIES

In Korea, as in other countries, the government's role in finance and financial sector policymaking is intertwined with the country's social and political environment. Korea was occupied by Japan from 1910 to 1945, and has been divided into North and South since World War II. During the Japanese occupation, the modern financial system was introduced, and some of its industrial base was built, but these gains were largely destroyed during the Korean War (1950-53). After the war, institution building and the shape of Korea's political and economic system were influenced heavily by American advisors. Korea's economic policies were also tightly monitored by the U.S. development agencies (USAID).

Until the early 1960s, Korea was a U.S. aid dependent economy. Although Korean policymakers borrowed lessons from prewar Japan to shape their view of government's role in economic development, they were also influenced heavily by liberal American policy advice. Thus, Korean policymakers sought to balance these ideologies by mixing competitive product market policies with strong control over the financial sector. After its rapprochement with Japan in 1965, Japanese private capital began to flow into the country. And as oil money was being recycled through the commercial banks since mid-1970s, Korea's economic policy was no longer held hostage to the conditionalities of bilateral or multilateral credits. The comprehensive liberalization measures in trade and finance enacted during 1964-66, and intensified credit intervention to drive HCI development in the 1970s could be understood in this context.

President Rhee Syng-Man led the first government of Korea from 1948 to 1960. Having spent most of his adult life overseas (mostly in the United States) fighting for Korean independence from Japan, Rhee devoted much of his political agenda upon his return to building the nation, securing U.S. military commitment to ensure Korean security, guiding the country's involvement in the Korean War, stabilizing inflation, and securing U.S. grants for his war-devastated country. During the war, the exchange rate had become highly overvalued, primarily because the major source of foreign exchange revenue came from the local expenditures of U.S. military forces. Under Rhee's regime, Korea adhered to typical import-substitution policies, a largely political necessity, as is so often the case elsewhere. But unlike in Latin America, the political motivations came not from the domestic sector, but from outside: the historical animosity toward Japan. Korean policy sought to pursue defensive industrialization to keep Japanese products at bay and, in so doing, to sabotage U.S. efforts to coordinate postwar reconstruction policy in East Asia. In the 1950s, rejecting U.S. pressure on Korea to sell rice and seaweed to Japanese and purchase Japanese industrial goods, Rhee sought to allocate available foreign exchange to build domestic factories that would produce such daily necessities as sugar and cloth.

Korea's economic growth from 1954 to 1960 was modest, averaging 3.7 percent a year. Many foreign observers concluded that massive U.S. aid was not conducive to economic development. In fact, some believed that the aid was imbuing Koreans with a welfare mentality. For their part, U.S. development agencies called Korea a "nightmare" and "bottomless pit." Even in the mid-1960s, some U.S. academics despaired that Korea might not become anything more than a permanent U.S. "ward" (Woo 1991). Highly distorted relative prices and protection promoted graft and corruption in the allocation of foreign exchange, import licenses, bank loans, and sales of assets formerly held by Japanese.

In 1960, a student uprising to protest election fraud, corruption, and dictatorship led to the collapse of Rhee's regime. A new democratic government was elected, led by Chang Myon, but it was short-lived (1960-61). Although Chang's government set out to draft a five-year economic development plan, both internal and external observers expressed doubts about the efficacy of his government. A secret memorandum prepared by the director of the U.S. Central Intelligence Agency reported that the Chang Myon government bore "responsibilities for the absence of significant political or economic advances," and "was politically unstable."²¹ In March 1961, Hugh Farley wrote that "the Republic of Korea is a sick society," with "endemic oriental problems of graft, corruption, and fraud." He continued, "the government has not even discovered how to enlist United States assistance in the right way" (cited in Woo 1991, p.78). In the 1950s and early 1960s, Korea showed symptoms of economic malaise that are commonly found today in many developing countries.

The turning point of Korean economic development came in the 1960s. In May 1961, Park Chung Hee, a military general, took over the government in a coup d'état; in 1963, he became president in a popular election. His regime continued until 1979, when he was assassinated. The U.S. initially considered Park to be a communist, then labeled him a miscreant, and then a nationalist; finally, it came to see him as a nation builder (Woo 1991, p.79). Park motivated people, was at the forefront of the national drive for economic development, restlessly monitored the progress of all development projects, both public and private, and governed the industrialists relentlessly by both carrot and stick. Having come from peasant origins, most Koreans, including Park himself and the members of his military junta, mistrusted the free-market system. As did ultra-nationalist Japanese officers in the 1930s, they harbored a peasant suspicion of capitalism. They linked free-market systems with capitalist exploitation and disorder; conversely, they believed that national security and welfare were related to national wealth and military strength (*Bu Kuk Gang Byung*) which, Park believed, were essential for reunifying the divided country and developing it into an economic power (C.Y. Kim 1990). In governing Korea, Park's goal was to protect the country from communist invasion from the North and to alleviate poverty. But having been educated in the Japanese Military Academy, Park used the Japanese prewar experience as a model for economic development.

²¹ U.S. House of Representatives, *Investigation of Korean-American Relations*, p.166, cited in Woo (1991).

In particular, Park dreamed of developing the steel and other heavy industries. In order to pursue this industrial transformation, Park recognized that Korean economic policies had to be dominated less by political motivation and animosity toward Japan; only after the normalization of relations with Japan could Korea have access to the necessary capital. Moreover, Korea could switch from pure import-substitution to export promotion policies. Later, national security concerns intensified the HCI drive, a response to the Nixon doctrine to reduce U.S. ground forces, the Carter Administration's pledge to withdraw U.S. forces, and the fall of South Vietnam to communist rule.

Foreign capital and economic growth

Many observers overlook the importance of foreign aid and loans in shaping Korean economic policies (including financial sector policies) and its push toward economic development. From 1946 to 1976, the United States provided \$12.6 billion in economic and military aid to Korea (Woo 1991); Japan contributed an additional \$1 billion, and Korea borrowed \$2 billion from multilateral financial institutions. For a country with a population of 25 million (at midpoint 1960),³ the total of more than \$15 billion gives a per capita assistance figure of \$600 for three decades.⁴ No other country in the world received such large per capita sums, with the exception of Israel and South Vietnam (Mason et al 1980). The total of \$6 billion in U.S. "economic" grants and loans to Korea during 1946-78 compares with \$6.89 billion for all of Africa, and \$14.89 billion for all of Latin America (Woo 1991).

By the 1970s, international lenders recognized Korea's economic potential. Moreover, the world was floating in petrodollars, whose availability was not attached to political and economic strings. Private foreign loans were critical for enabling Korea to pursue its HCI drive in the face of the objections of multilateral institutions. Although the level of domestic savings increased sharply in the 1970s, it was not enough to fund the mammoth cost of the HCI drive. Investment as a percentage of GNP often hovered around 30 percent in the 1970s, but domestic savings remained far lower. In 1974, for example, investment was 31.7 percent of GNP, but savings were 20.7 percent. At this savings rate, Korea could not have built its steel industry to a scale large enough to become competitive in international markets, had it not have such an access to foreign capital.

Economic growth averaged 8.2 percent during 1962-82. Had investment depended totally on domestic savings, we estimate that the average growth rate during the same period might have been only 4.9 percent, with the remaining 3.3 percent coming from foreign capital (see Annex I). Thus, Korean economic development was predicated heavily on foreign

³ Korea currently has a population of more than 40 million.

⁴ Taiwan (China) was another big recipient, at \$425 per capita.

savings. For example, although external debt among all developing countries grew approximately sevenfold in the eleven years from 1967 to 1978, the external debt of Korea grew fifteenfold. The figure for private, short-term loans is even more revealing: the debt of developing countries in the international financial market grew by 17 times during the period; Korea's reliance on private money grew by almost 100 times. By 1984, Brazil topped the list with \$92.4 billion; Mexico followed with \$86.2 billion, then Korea with \$43.5 billion (Woo 1991). This access to foreign private capital derived to some extent from Korea's special relationship with the United States and Japan, which reduced credit risk to international money lenders. But Korea would not have been successful otherwise: its highly repressive financial policy—far stronger than the policies of Taiwan (China) or Japan—limited the mobilization of financial resources, and Korea would have experienced slower economic growth. Much of this foreign borrowing—both public and commercial loans—was guaranteed by the government, and every single loan was approved by the government.⁵⁷

Government control over the financial sector

Park strengthened his authoritarian rule through constitutional reform (*Yushin*); he assumed absolute power in 1972. At this point, Park set politics aside, allowing "administration" to dominate the law, the media, and all decision-making. He also strengthened government control over the allocation of financing.⁵⁸

Control over banks in a credit-based economy such as Korea's was the most powerful instrument for controlling the industrialists, and the authoritarian regime wanted to retain such control. On the one hand, the only justification for the authoritarian regime was to spur rapid economic growth; to do so, the government believed that it had to intervene heavily in financing investment. On the other hand, the authoritarian regime needed the support of industrialists to sustain. Although political corruption did not disappear in Park's regime, he kept

⁵⁷ *But after providing the guarantees for repayment, the government also had to monitor the performance of the borrowers, provide working capital to ensure their successful operation, and sometimes had to bail them out so as not to lose its access to foreign loans. This heavy foreign borrowing also constrained domestic credit policy.*

⁵⁸ *It is of interest to note that, when Korea's first five-year economic development plan was prepared, there were only two U.S.-trained economists with Ph.D.s (both in agricultural economics) and fewer than ten M.A.s in economics. The U.S.-trained Korean neoclassical economists started to enter the economic policy-making arena in the early 1970s, a movement that was given impetus when the Korea Development Institute (KDI) was established in 1971 and when economists were appointed as advisers to the president or economic minister. Yet their influence in determining the major direction of economic policies remained very limited until the end of the 1970s; they remained largely in the background of major economic decision-making (Nam 1992). As Park strengthened his authoritarian regime in the early 1970s, he also strengthened the role of the state in economic activities; the economists' job was left largely to addressing technical issues or finding the least distortionary measures given the government's interventionist approach.*

the bureaucracy relatively clean by offering nonmonetary rewards and imposing punishments.²¹ As for the industrialists, they continuously needed cheap credit support from the government to support their highly leveraged financial structure,²² and were willing to provide the necessary funds to support authoritarian politics. In the process, the government gradually became the hostage of credit-dependent big conglomerates, and was forced repeatedly to bail out troubled firms that resisted attempts at financial liberalization in the 1980s.

By the end of the 1970s, major HCI projects were completed, and Korea's industrial structure had been reoriented significantly toward HCI. When Park was assassinated in 1979, his regime collapsed, and along with it the HCI drive. But the HCI drive was also discontinued because it had largely achieved its goal: Park's regime was followed by the government of Chun Doo Hwan (1980-88). As the public grew increasingly disenchanted with excessive government intervention, which it blamed for the overinvestment in HCIs and the slow economic growth in the late 1970s, economic liberalization became a catchphrase starting in the early 1980s. But despite the fact that substantial economic liberalization in trade and industrial policies was achieved—due in part to the government's own initiative but also in part to pressure from Korea's largest trading partner, the United States—liberalization of the banking system was exceedingly sluggish. Although the government did commit to several liberalization measures (such as privatizing commercial banks), the financial sector continued to be subject to government intervention in the 1980s; in particular, the government continued to exert heavy control over the banking sector in order to bail out, merge, and restructure firms in troubled industries. Its reluctance to liberalize the sector was also fueled by the same dilemma facing the previous government—the give-and-take relationship between the authoritarian government and the industrialists. As a compromise, the government liberalized NBFIs, relaxing entry barriers and expanding their business boundaries. It also encouraged the development of a securities market (Cho 1989, Cho and Cole 1992). Most of these NBFIs were owned by the Chaebols,²³ and their operation has been quite commercially oriented. NBFIs grew rapidly, and their deposit share became larger than that of banks by the early 1980s (see Table 1).

²¹ *Park received donations from industrialists, but he used this money for political purposes, and did not use it to accumulate his own wealth. He was not a corrupt person himself.*

²² *Korean firms, especially large industrial groups, are highly leveraged. Their debt ratio was substantially higher even than that of Japan and Taiwan (China).*

²³ *Chaebols are the Korean name of big industrial conglomerates.*

Table 1. Composition of financial savings
(Year-end; percent)

Year	Bank time & savings deposits including CDs (a)		Securities					Inter-sectoral transactions (-)
			NonBank deposits	Total	Public debentures	Stocks	Corporate bonds	
1972	70.0	(82.2)	22.2	13.2	9.3	3.1	0.8	5.4
1975	60.2	(65.8)	27.6	15.6	5.6	8.1	1.9	3.4
1976	57.7	(63.2)	31.3	18.0	4.6	10.4	3.0	4.2
1977	54.9	(60.1)	30.0	18.7	4.8	9.5	4.4	3.6
1978	53.1	(57.6)	30.0	19.1	9.9	6.1	3.1	2.2
1979	48.9	(53.3)	32.0	21.3	4.2	8.8	8.3	2.3
1980	45.9	(51.5)	37.8	21.8	4.8	7.2	9.8	5.4
1981	44.2	(49.8)	40.8	22.1	5.9	6.3	9.9	7.1
1982	41.4	(46.2)	45.7	24.1	8.1	5.8	10.2	11.2
1983	38.4	(42.6)	47.8	24.8	8.2	5.8	10.8	11.0
1984	36.4	(40.9)	50.7	25.1	8.5	5.8	10.8	12.1
1985	36.3	(42.3)	53.6	24.4	8.5	3.7	12.2	14.3
1986	34.5	(41.3)	56.9	25.0	8.3	5.3	11.4	16.4
1987	32.6	(41.8)	59.0	24.4	7.9	6.1	10.3	16.0
1988	30.2	(41.0)	59.9	26.8	6.8	10.8	9.2	16.9
1989	25.5	(38.4)	59.4	31.1	6.5	15.6	9.0	16.1
1990	25.6	(38.8)	60.3	29.9	6.3	13.3	10.3	15.8
1991	25.3	(38.9)	59.5	30.1	7.1	11.9	11.1	15.0
1992	24.7	(41.0)	64.2	27.9	6.8	10.6	10.5	16.7

(a) Figures in parentheses are bank time and savings deposits, including both certificates of deposit (CDs) and money in trust (the latter of which is classified formally as nonbank deposits).

Source: Ministry of Finance, Fiscal and Financial Statistics, various issues.

The end of Chun's government was followed by the presidency of Rho Tae Woo (1988-93), another former military general and close friend of Chun's. Pledging political democratization, Rho won the general election in 1987, the first one held in sixteen years. Political democratization began to erode the government's supreme authority and its traditional relationship with business, especially with the Chaebols. By the late 1980s, the share of government-controlled bank loans in the total flow of funds had declined substantially (Table 1); Chaebols now control the NBFIs, and are able to mobilize a substantial amount of funding. In fact, their reputation is such that they can raise funds in international capital markets without the government's help. The erosion of government's senior partnership with the industrial sector manifested itself in the presidential election in December 1992. Chung Joo Young, the founder and owner of the Hyundai group, created his own political party and challenged the president, an action that would have been unthinkable ten years ago.

It is not surprising that, during this period, the scope of government intervention narrowed, and the structure of policy loans changed substantially. Export credits and interest rate subsidies, especially for large export powerhouses, were tightened, spurred primarily by the large current account surplus during 1986-89 and by trade friction with the United States. However, in the second half of the 1980s (see section 4), the share of policy loans was expanded in response to political demands, which called for encouraging the growth of small and medium-size company credits, agricultural credit, and housing credit. Conversely, bank credits to the thirty largest Chaebols have been controlled tightly to ensure that their share of the total amount of credit would not increase. In recent years, Korean credit programs have become more politically oriented, and, in a sense, more similar to those of South Asian economies.

2. KOREA'S INDUSTRIAL AND MACROECONOMIC POLICY FRAMEWORK

Credit policy is formulated as a part of an economic development strategy, and, as such, its effectiveness is determined within the overall context of industrial and macroeconomic policy. This section briefly reviews the industrial policy framework under which Korean credit policies operated.^{10/}

As mentioned in section 1, the turning point in Korea's economic development came in the 1960s. Thus, this section focuses primarily on the specific policy measures adopted during this period, which helped lay the groundwork for the rapid economic growth in subsequent years. It also then briefly discusses how industrial policy changed in the 1970s and 1980s, focusing on such macroeconomic policies as the exchange rate, wage policies, and inflation. Overall, in these three decades, the basic strategy of industrial policy in Korea was to encourage private sector development, with competitive environment in their business activities, supplemented by government control over the allocation of financing. Priority in this high-growth period shifted from export promotion in the 1960s to HCI development and export promotion in the 1970s, to an emphasis on sectoral balance and the redistribution of income in the 1980s.

Economic reforms in the 1960s: The initiation of export-led growth

In the early 1960s, Korea's savings ratio was less than 10 percent of GNP;^{11/} in 1960, tax collection was 9.9 percent of GNP, which was low even by the standards of other developing countries.^{12/} The Korean economy was predominantly agricultural. Manufacturing constituted only 13.6 percent of total output (Table 2). Again, Korea's industrial policy was predominantly Import Substitution Policy (ISP). In 1960, total exports were only \$32 million, primarily in tungsten and agricultural products.^{13/} In the early 1960s, U.S. aid began to decline. Thereafter, U.S. policy toward Korea was oriented toward development assistance in the form of advice, loans, and help from the private sector, international agencies, and Japanese "burden sharing." It gradually began to phase out grants. In response to the bottleneck in economic development that soon arose, USAID strongly recommended that Korea's tax structure be reframed and that savings be mobilized by initiating a financial reform that would establish

^{10/} Amsden (1989), Leipziger and Petri (1992), World Bank (1987), and Stern et al (1992) provide an in-depth analysis of industrial policy making in Korea.

^{11/} During 1962-66, the domestic savings rate was 8 percent (see Table 11 in section 5).

^{12/} By 1990, tax collection had increased to 19 percent of GNP.

^{13/} By 1992, Korea's total exports had increased to \$72 billion.

proper market channels and offer attractive yields on financial assets. USAID also strongly recommended that Korea liberalize its trade regime. With U.S. aid dwindling, Park's government came to accept these recommendations.

**Table 2. Changes in the industrial structure by GDPs
(Percent)**

	Agriculture, forestry, fisheries	Mining	Manufacturing	Others	Per capita GNP (US\$)
1960	36.9	2.1	13.6	47.4	79
1965	38.7	1.8	17.7	41.8	105
1970	25.8	1.3	21.0	51.9	252
1975	25.0	1.4	26.1	47.5	594
1980	14.9	1.3	29.7	54.1	1,592
1985	12.8	1.0	30.3	55.9	2,194
1990	9.0	0.5	28.9	61.6	5,659
1991	8.1	0.4	27.5	64.0	6,498

Source: National Statistical Office, "Major Statistics of the Korean Economy."

During 1964-66, a series of reforms were implemented which Anne Krueger called "the most dramatic and vivid change in any developing country since World War II" (Krueger 1979).¹⁴ The first reform was the elimination of multiple exchange rates; it was soon followed by a 100 percent devaluation of the exchange rate, the benchmark of an export-led growth strategy. Selected import markets were then liberalized in turn, and an export incentive system was established. The system allowed exporters to deduct various taxes (domestic commodity taxes, business taxes, and income taxes), gave them generous wastage allowances that granted them preferential terms for importing a greater amount of intermediate inputs than required in production, granted tariff exemptions to direct and indirect exporters, and allowed concessional credits (Rhee 1989). In part, the system enabled Korean exporters to avoid some of the distortions involved in the protection afforded to domestically oriented activities, and even provided a "modestly pro-export bias" (Westphal and Kim 1977). Among these incentives, the export credit was the most significant incentive scheme (as discussed in-depth in section 6).

¹⁴ The American experts that helped shape these recommendations included Edward Shaw, John Gurly, and Hugh Patrick on financial reform; Richard Musgrave on tax and fiscal reform; Peggy Musgrave on foreign trade reform; Hollander and Edgar Mcvov on manpower planning; and Irma Adelman on planning models.

Financial reform

In 1965, the one-year time deposit rate was increased from 15 percent to 30 percent overnight, and interest rates on loans rose to between 26 and 30 percent, creating negative margins for the banks (this reform is discussed in-depth in section 3). Although U.S. advisors recommended more comprehensive reforms, the government agreed only to increase interest rates and to establish a monetary stabilization account at the BOK.

The reforms of 1964-66 were an effort to "get the prices right." But the government attached equal importance to "managing the financial allocation of the economy." The 1965 interest rate reform enabled the government to strengthen its control over finance. As the 1960s progressed, the government nationalized all commercial banks and established many state-owned specialized banks. While keeping close control over finance, the government closely managed and monitored progress of industrial investment, all development projects, and export performance. As such, economic policies in the 1960s marked the beginning of "Korea, Inc."

Institution building

Also in the 1960s, the government created the Economic Planning Board (EPB), a merger of several policymaking functions of different ministries, the budget from the Ministry of Finance, and the collection and evaluation of national statistics from the Ministry of Internal Affairs. Since the effective coordination of policies among ministries required both power and prestige, the EPB was transformed into a super-ministry whose head became the only deputy prime minister in the government. Along with this powerful institution, the government also created various other institutions to facilitate government-business communications and to support its export bias. Among the institutions that were established were the Korea Federation of Industrialists (KFI) (an association of big industrialists, similar to "Keidanren" in Japan); the Korea Trade Promotion Corporation (KOTRA), to support foreign marketing and technology imports; and the Korea Trader's Association (KTA), an umbrella organization that established a trade agent (Koryo Trade Corp.) to conduct export business for small exporters. KTA and KFI were crucial to bridging communications between business and government.

The government also initiated monthly meetings for economic trends analysis, and monthly meetings for export promotion, chaired by the President and attended by senior government officials, business leaders, industry associations, bankers, and labor union leaders. Analyses of domestic economic problems and information on international market trends were shared at the meetings; the meetings also provided an opportunity for the government and the private sector to discuss policy, and for bureaucrats, businessman, and bankers to build a consensus. The progress of exports was monitored item by item, and by region (C.Y. Kim 1990 and 1993). If progress was slow, the President urged the bureaucrats and bankers to intensify

their support. Also at the meetings, strong export performers received medals and national recognition. Economic management in this way resembled the notion of corporate management within Korea, Inc.: banks acted as a treasury unit, the industrial sector as the production and marketing units, and the government as a central planning and control unit (Cho and Hellmann 1993; C.H. Lee 1992). Policy management was also geared toward providing a favorable macroeconomic environment to support the growth of the export industry.

The government also started to build up the country's infrastructure to facilitate private investment and export production. In the early 1960s, Korea's infrastructure ranked well below that of Turkey, Colombia, or Taiwan (China); but by 1980, average annual growth in such infrastructure benchmarks as electricity generation and length of highway far exceeded those in these countries (Kim and Leipziger, 1993). The construction of the Seoul-Pusan highway and many dams for electricity generation contributed greatly to subsequent export growth.

In summary, the economic policies of the 1960s, including bank credit allocation and other policy incentives, were oriented toward promoting exports without specific industrial biases. Initially, exports were promoted as a way to help the country earn the foreign exchange it required to build factories and industries. But when export growth helped create jobs and brought externalities to economic growth, the government pursued its export promotion policy more vigorously. Throughout the 1960s, credit allocation favored exporters, not only explicitly through export credit programs, but also indirectly through administratively guided general bank loans.

Industrial policy in the 1970s: The HCI drive

In the 1970s, industrial policy shifted toward promoting the buildup of HCIs. HCI policy consisted of targeted (directed) credit subsidies, selective protection,^{15/} entry regulations, and government-directed industrial decision making. The government picked Chaebols or firms to enter specific industries, a decision that had some negative consequences: inappropriate scale choices; excessively capital-intensive investments in targeted sectors; and the retardation of trade and financial liberalization. But it also had strong positive results: Korea's level of industrialization rose; some firms developed into world-class organizations; and inroads into lucrative, Japanese-dominated markets were made (Leipziger and Petri 1992). The industries that evolved during this period became the leading export sectors in the second half of the 1980s, when Korea ran a large current account surplus.

^{15/} During this period, import protection in Korea increased substantially (see World Bank 1987).

Industrial policy in the 1980s: A search for liberalization

In the 1980s, Korean industrial policy shifted away from intensive HCI intervention toward function-oriented support, such as support for R&D. The thrust of the new industrial policy was formalized simultaneously by the Industrial Development Law of 1985, and by the repeal of selective industrial-promotion laws. Nonetheless, the government did not abandon ad hoc industrial intervention. It restricted entry into industries whose economies of scale were thought to be necessary for maintaining the strength of the Korean export base. It also extended credit to conglomerates that were heavily involved in shipbuilding, machinery, and other overextended industries in order to ensure their survival. The government also mandated mergers, divestitures, and closings to rationalize depressed industries, such as shipping and overseas construction. It remained closely involved in directing bank loans, and it intervened selectively in many other areas, such as regulating the Chaebols' share of total bank credit allocations. Although it substantially liberalized trade, it continued to control financing. Yet some progress was made overall: major commercial banks were privatized, interest subsidies on directed credit were eliminated or reduced, and entry requirements for NBFIs and foreign financial institutions were relaxed. Because NBFIs were governed by fewer regulations than were the banks, NBFIs soon proliferated, creating a more competitive financial market (Cho and Cole 1992).

Macroeconomic policies

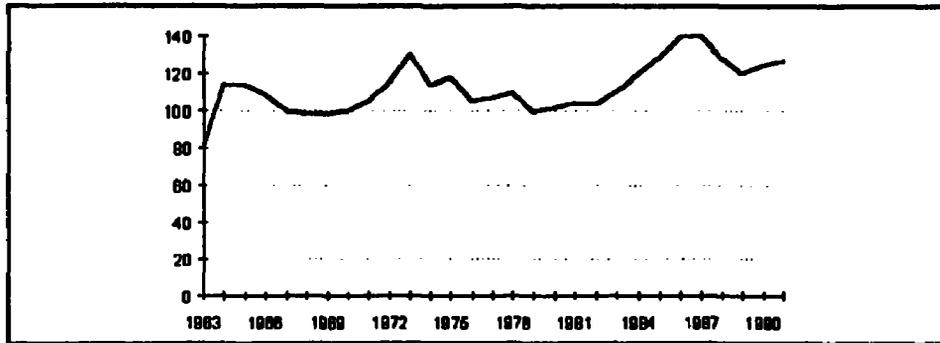
In the three-decade period of high growth, macroeconomic policies were largely conducive to industrialization. Real exchange rates remained competitive, and real wages stayed in line with production growth. Although fiscal management was moderately expansionary, it was not so much that it exerted any inflationary pressure. But because the large amount of directed credit continued to be supported by central bank financing, the level of inflation was still significant, although moderate in comparison with inflation in many other developing countries.¹⁶

Exchange rate management

In general, the government kept the real value of the won near the level necessary to maintain Korea's export competitiveness. The real effective exchange rate remained relatively stable over time (Figure 1). During 1976-85, the variability of Korea's real exchange rate was reportedly the lowest of 95 developing countries (Kim and Leipziger 1993). Clearly, maintaining a competitive exchange rate was critical to Korea's export-led growth strategy. This is in marked contrast to the experience of Latin American countries, which have experienced large fluctuations in their real exchange rates.

¹⁶ Dornbusch and Fischer (1993) classify Korea as a moderately inflationary country.

Figure 1: Real effective exchange rate

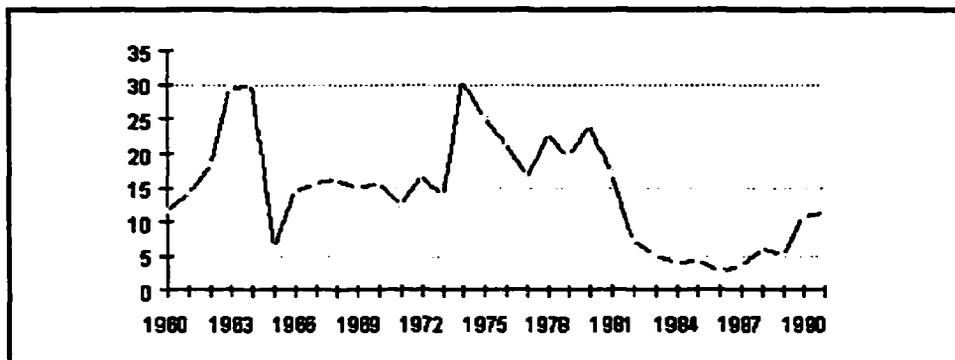


Source: Kim and Leipziger (1993).

Inflation

Korea has not been quite as successful at controlling inflation. Throughout the 1960s and 1970s, calls for controlling inflation were usually outweighed by Korea's growth-oriented development strategy, particularly central bank financing to support various credit programs, including export credits, and the government's expansionary fiscal policies. These two factors were largely responsible for exerting pressure on the rate of inflation in the 1970s, which at times ran higher than 20 percent (Figure 2). But the government did not blind itself to the consequences of rampant inflation; in the early 1980s, it began to implement comprehensive stabilization measures, and inflation decelerated substantially.

Figure 2: Inflation (GNP deflator)

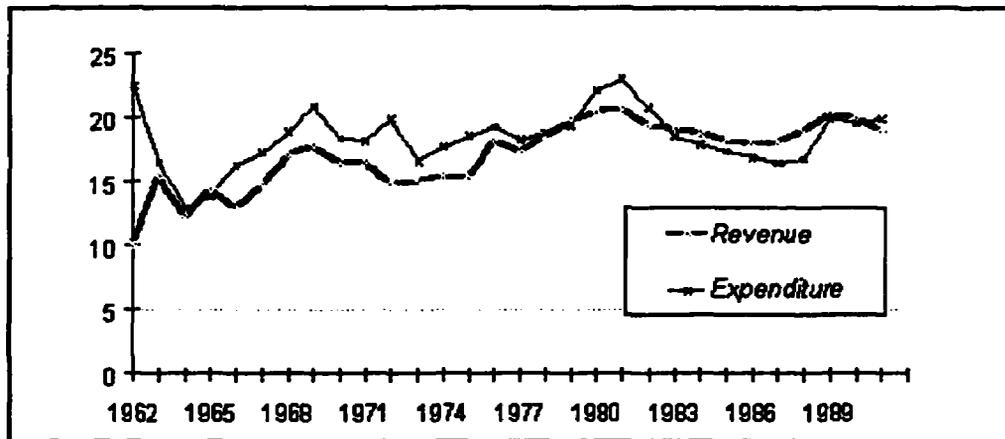


Source: Bank of Korea, Economic Statistics Yearbook, various issues.

Fiscal management

Korea's moderately expansionary fiscal stance was necessary to fuel the HCI drive and to subsidize grain prices in the 1970s. During 1967-82, the public sector recorded persistent deficits, averaging 2 percent of GNP. Early on, the government recognized the importance of strengthening infrastructure, defense, and the education system in order to support its economic growth strategy and to safeguard national security. It thus devoted large expenditures to these sectors. But by the early 1980s, these sectors had been reinforced, and the stabilization effort that had been adopted to control inflation required balanced budget. A steady increase in tax revenue from 10 percent of GNP in the early 1960s to 20 percent in 1990 (see Figure 3) also helped budget turn to balance.

Figure 3: Fiscal deficit (% of GNP)



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

In summary, although relatively high inflation drove the controlled bank interest rates down to a moderately negative level in real terms for certain periods, the general macroeconomic environment was stable when compared with many other developing countries. Industrial policy pursued clear, long-term goals, and various policy measures were targeted to these goals in a process often lacking in other developing countries.

3. THE EVOLUTION OF FINANCIAL SECTOR POLICIES AND DIRECTED CREDIT PROGRAMS IN KOREA

Korean credit policy has adjusted to the changes in the focus of industrial policy over time. After close consultation with industrial leaders, the government deemphasized its directed credit programs in response to business-sector imperatives, and is now using new credit programs to channel financial resources toward new industrial opportunities. This section discusses how credit policies evolved in the five subperiods of the development of industrial policies: (1) post-Korean War reconstruction and the control of war inflation (up to 1960); (2) greater government control over financing and the expansion of credit support for exports (1961-71); (3) expansion of the credit support for the HCI drive (1972-79); (4) initial attempts at financial liberalization, but continued credit intervention to support industrial restructuring (1980-86); and (5) the expansion of policy loans to ensure social equity and intersectoral balance (1987-91). Here, again, we focus more heavily on the credit policies of the 1960s, the period in which the Korean economy took off.

Post-Korean war reconstruction and stabilization (to 1960)

A modern financial system was introduced in Korea under the Japanese occupation. With Korean independence in 1945, the government took over Japanese-owned banks. With help from U.S. experts, the financial system was restructured in 1950. In the late 1940s, Arthur Bloomfield, an economist with the Federal Reserve Bank of New York, came to Korea to help create a financial system with an independent central bank akin to the U.S. Federal Reserve System, thus differing from the Japanese colonial system. The Fed had already engineered such reforms in Guatemala, Paraguay, and the Dominican Republic, and sought to use the same blueprint in Korea. Among other items, the reform proposal called for "getting most of the banks as rapidly as possible out of the government hands into the hands of private owners," and included a system of checks and balance in monetary and credit policies. Based on this recommendation, BOK was established. But it was only in 1957, after long U.S. pressure, that Korea took the first step toward privatization. This move was accompanied by worrisome consequences: the takeover of banks by a few large industrialists, and the concentration of bank credits for their own use. For the next few decades this early experience with bank privatization provided a strong historical and social defense for government control over banks.

When the Korean War ended in 1953, the government's efforts focused on rehabilitating the devastated economy and coping with the severe inflation. To pursue these goals, the Korean government imposed credit ceilings and adopted selective credit policies (SCPs). In 1953, the monetary authority introduced a credit rationing system under which priorities were set according to their significance and urgency for the economy. Korean financial

policy during this period was similar to what can now be seen in many developing countries: interventions without clear instruments or economic goals. Interest rates on loans were set at around 14 to 17 percent, which usually were significantly negative in real terms.¹²⁷ All bank funds were categorized into three groups: (1) credits eligible for rediscounting at BOK; (2) credits that were not supported by BOK rediscounting; and (3) credits prohibited from lending by banks. Credits for chemicals, textiles, machinery, metal mining, and food manufacturing figured prominently in the BOK rediscounting category; ineligible for rediscounting were somewhat vaguely designated "nonproductive" activities, such as service industries and such consumer goods as beverages, furniture, cosmetics, and retail trade; this second group was defined vaguely so as to capture a wide net of borrowers. After 1955, banks were required to obtain prior approval from the monetary authority for private sector loans above a certain amount and for all loans to public projects. This policy sought to maintain control over the money supply. Yet, despite this SCP, the rate of inflation remained high, due primarily to persistent government budget deficits. Beginning in 1957, the government initiated tight fiscal and financial stabilization programs, which lowered the rate of inflation (as measured by the wholesale price index) from 35.4 percent during 1953-57 to 2.5 percent during 1958-60.

Meanwhile, in 1954, the government established the Korea Development Bank (KDB) to grant medium- and long-term loans to industries. According to the KDB Act, KDB's operating funds were to come primarily from long-term bonds issued by KDB and borrowing from the government such as "counterpart funds" mobilized from the sale of foreign-aid goods. However, KDB came to depend heavily upon BOK for funds, because, in the face of inflationary conditions, limited private savings, and ceilings on interest rates, it could not sell long-term debt instruments to the public.

Strengthening government control over the banking sector and export-led economic growth (1961-71)

In 1961, Park's military government established new priorities for Korea's economy by shifting its policy stance from stabilization to growth and from import substitution to export promotion. It believed that economic growth could be pursued only if the government took the lead in mobilizing and allocating resources. To pursue this goal, the government launched its first five-year economic development plan and implemented two measures to strengthen state control over finance: nationalizing commercial banks, and amending the BOK Act to subordinate the central bank to the government. In addition, it introduced three significant policy reforms—expanding the export credit program, adjusting interest rates, and revising regulations on foreign capital inducement.

¹²⁷ Inflation during 1953-57 ran at an average rate of about 35 percent annually.

Nationalizing commercial banks and reorganizing the central bank

Commercial banks were nationalized, and various specialized banks were established to support specific sectors. In 1961, most of the equity capital of commercial banks, formerly owned by a few industrialists, was transferred to the government, paving the way for the government to exert direct control over commercial banks. Beginning in 1967, the government induced commercial banks to finance long-term policy loans by directing them to deposit their funds in the KDB, to purchase long-term bonds issued by the KDB, and to extend credit to firms with loan guarantees from the KDB. Commercial banks were also lending for equipment investment on a revolving basis.

The nationalization of commercial banks was accompanied by the reorganization of BOK. An amendment to the BOK Act of 1962 transferred monetary policy authority from BOK to the Ministry of Finance (MOF). This step was crucial to the government's financing strategy for development projects, which depended heavily on BOK's monetary expansion (as discussed in section 4). Under the amended Act, the governor of the bank was to be appointed by the President on the recommendation of the Minister of Finance. In addition, the MOF had the authority to request reconsideration of resolutions adopted by the Monetary Board, which is BOK's policymaking body. The policy authority and autonomy of BOK were narrowed further. The MOF took control of foreign exchange from BOK and assumed the administrative power both to supervise its business and to control its budget and expenses. The 1962 amendment also empowered MOF to direct BOK to purchase securities issued by the government agencies with redemption guarantees. These measures allowed the economic development plan to be financed easily with high-powered money.

The Korea Development Bank Act was also amended to strengthen KDB's role in economic development. KDB increased its capital base, and was allowed to provide payment guarantees for foreign borrowing, supply working capital loans, and grant long-term loans to government and KDB-owned enterprises. It was also allowed to borrow funds from BOK. Other specialized banks were established throughout the 1960s to handle policy loans: the National Agricultural Cooperatives Federation in 1961, the Industrial Bank of Korea in 1961 (for small and medium-size loans), the National Federation of Fisheries Cooperatives in 1962, the Citizens National Bank in 1963 (for small-firm and household loans), the Korea Exchange Bank (KEB) in 1967, and the Korea Housing Bank in 1969.

Policy reforms

Practically all policy instruments were mobilized to support export-led growth and the five-year development plan. Among other measures, Park's government took three important steps: strengthening export credit programs; reforming bank interest rates to mobilize financial savings through banks; and amending foreign exchange regulations to open up the inflow of foreign capital.

Box 1. Development of export credit programs

The export industry in Korea was supported by SCPs as early as the 1950s, but the size of export loans was then negligible. From 1961, when the military government initiated the export-led strategy for economic growth, it strengthened export credit programs to support exporters. Until the mid-1980s, when Korea ran a current account surplus, the system of export financing played a critical role in promoting the export industry.

The short-term export credit system was streamlined in 1961. The essence of the new system was the automatic approval of loans by commercial banks to those with export letters of credit (L/C). Initially, the program covered certain portions of the costs of production. But its coverage has expanded rapidly since 1961; for sales to U.N. forces in Korea in 1961; for exports on a D/P, D/A, or consignment basis in 1965; for construction services rendered to foreign governments or their agencies in 1967; for imports of raw materials and intermediate goods for export use or purchase from local suppliers in 1967; and so on. In each case, the expanded coverage was meant to support the exploration of new export opportunities and the diversification of export items. These new programs were established after close consultation between the government and exporters. These schemes were consolidated into the Regulation of Export Financing in 1972. The introduction of general trading companies ushered in the new export financing system, which provided financing on the basis of previous export performance. To be eligible for this financing, exporters had to exceed a specified level of exports from the previous year, thus linking export performance with their access to credit. The general trading companies had favorable access to export credit, but had to renew their licenses each year. Those whose exports did not exceed a specified amount had their licenses revoked.

The interest rate on export loans was subsidized heavily. When the 1965 interest rate reform was implemented, the interest rate on export credit was untouched. Consequently, the gap between export loans and general ordinary loans widened sharply (see Table A). In 1973, as the government reoriented its industrial development strategy toward promoting HCI, the BOK discount policy was extended further, financing equipment investment in the export industry. In 1976, the government also established the Export-Import Bank of Korea (EXIM), which specialized in mid and long-term post shipment export financing to encourage the export of HCI products. In the mid-1980s, when the current account surplus increased, the amount of export loans fell significantly and large corporations were no longer eligible for the BOK rediscount.

Table A shows the share of export loans in total loans from DMB. Between 1961 and 1965, the annual average share was 4.5 percent; the share increased to 7.6 percent during 1966-72 and to 13.3 percent during 1973-81. Yet, when the current account surplus widened in the mid-1980s, the share fell significantly; during 1987-91, the share of export loans was only 3.1 percent. The share of export loans in total policy-based loans supplied by the DMB shows a similar trend: after reaching 20.4 percent during 1973-81, it fell to 4.5 percent during 1987-91. Table A also shows the extent to which DMBs' export loans were supported by the central bank. Between 1966 and 1991, the annual average ratio of BOK credits to DMBs for their export loans was 64.2 percent. This ratio indicates that more than half of DMB export credit was supported by the central bank's rediscount.

Table A - Export loans by deposit money banks
(Percent)

	1961-65	1966-72	1973-81	1982-86	1987-91
Export loans by DMB/total loans by DMB	4.5	7.6	13.3	10.2	3.1
Export loans by DMB/total policy loans by DMB	N/A	N/A	20.4	16.5	4.5
Export loans by BOK/export loans by DMB	N/A	66.3	73.0	64.5	45.3
Export loan interest rate (A)	9.3	6.1	9.7	10.0	10 - 11.0
General loan interest rate (B)	18.2	23.2	17.3	10 - 11.5	10 - 11.5
(B) - (A)	8.9	17.1	7.6	0 - 1.5	0 - 0.5

N/A means not available.

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

Expanding of export credit programs

BOK streamlined export credit programs to support direct and indirect exporters at preferential rates (see box 1).^{18/} Besides explicitly earmarked export credit programs, the government used both formal and informal directives or communications to persuade banks to lend to certain exporters to support their fixed investment and working capital.

Adjusting interest rates

As mentioned earlier, the government changed its interest rate policies significantly in 1965. Overnight, it raised the nominal interest rate on (one-year) time deposits from 15 percent annually to 30 percent, and the general loan rate from 16 percent to 26 percent. This "negative margin" between the deposit and loan rates was to provide an important incentive for financial saving, without overly raising the cost of loans to industrial firms. To protect the profitability of banks, the central bank paid an interest rate (3.5 percent annually) on the banks' required minimum reserves.

The reform attracted private savings from the informal curb market into banks. In the first three months, the level of time and savings deposits increased by 50 percent; over the next four years the level grew at a compound annual rate of nearly 100 percent. The stock of M2 relative to GNP shot up from 8.9 percent in 1964 to 31.8 percent in 1971. Total bank loans increased by an equivalent amount. The annual growth rate of bank loans rose from 10.9 percent during 1963-64 to 61.5 percent during 1965-69.

However, the reform only partially helped draw the interest rates offered by the banks closer to market rates. Loan rate increases were selective, leaving out export, agricultural, and many other categories of investment loans (which were discounted by BOK at lower rates to ensure that the banks remained profitable.) For example, interest rates on loans to exporters remained at 6.5 percent while the general loan rate was 26 percent. More importantly, the reform helped shift funds from the unregulated informal sector to the banking sector, over which the government tightened its control.^{19/} Thus, in fact, the 1965 interest rate reform increased the scope of government control over finance.

^{18/} Rhee (1984) provides a detailed discussion of Korea's export incentive system, including export credit programs.

^{19/} One estimate put the size of informal credit market in Korea at between 56 and 63 percent of total domestic credit at the end of 1964.

Facilitating the inflow of foreign capital

In order to compensate for the shortage of domestic capital, the government normalized its relations with Japan in 1965 and amended the Foreign Capital Inducement Act in 1966, allowing the state-owned banks to guarantee private sector foreign borrowing. This step created a large inflow of foreign capital, especially from Japan. Since few Korean firms had direct access to foreign borrowings in the 1960s, the government's repayment guarantees on private borrowers through state-owned banks such as the KDB and KEB facilitated and reduced the cost of private foreign borrowing (as discussed in section 5). Because domestic interest rates were high, foreign borrowing was very attractive to firms. Yet, because each foreign loan had to be approved by the government, foreign loans were also used selectively to support industrial policy goals.

Strengthening selective credit policy for the HCI drive (1972-79)

In the 1970s the government reverted to lower interest rates, while intensifying its controls further over credit allocation. The credit policies became more "selective." This reversion was marked by the Presidential Emergency Decree in 1972, which bailed out many financially insolvent firms (see section 6, Box 2) by placing an immediate moratorium on all loans in the informal credit markets, and reduced the bank loan rate from 23 percent to 15.5 percent annually. Furthermore, approximately 30 percent of the short-term high-interest commercial bank loans to businesses were converted into long-term loans at concessional terms (to be repaid on an installment basis over a five-year period at an 8 percent annual interest rate with a three-year grace period). The lapse to more repressive financial policies was motivated by the policy shift toward promoting HCI (which required an enormous amount of cheap financing), and was a significant departure from the export-oriented, non-sectoral-biased strategy adopted throughout the 1960s.

The government adopted two other important measures to support the HCI drive: it established the National Investment Fund (NIF), and expanded BOK discounts. HCI development required a large amount of term financing. In December 1973, the government established NIF to finance long-term investment in HCI plants and equipment.^{20/} NIF was mobilized by a combination of funds from private financial intermediaries and the government, but predominantly from the former (see Annex III for a detailed discussion on the operation and effects of NIF). Although NIF did not comprise a large share of total bank loans, it provided more than 60 percent of term finance for HCI equipment investment during 1975-80.

^{20/} According to Nam, then finance minister, he was compelled to establish NIF given the imperative of the heavy industry program for project financing, thus attempting to minimize the burden on banking operations (see Nam, 1992).

In conjunction with these measures, BOK expanded its rediscount facility to support HCI; the list of qualified bills for rediscounting now included both bills acquired by qualified firms in HCI and bills associated with raw material imports for HCI. Considering the long gestation period of investment in HCI, BOK also increased the maximum loan period for equipment investment from eight to ten years. Furthermore, BOK enacted the "Guide to Bank Loans": it added HCI to the list of high-priority industries for financial support, to induce more lending by banks to HCI. The Act also curbed or—in some cases prohibited—some service industries from being financed by banks.

Conversely, the government introduced a new requirement in loan portfolio management to induce more financial support for small and medium-size companies (SMCs), thus protecting SMCs from being squeezed out of bank loans under the HCI drive. After March 1976, commercial banks were required to meet a government-set minimum amount of loans to SMCs. However, the government did not strongly enforce the requirement, and it seldom charged penalties for non-compliance.

Attempts at financial liberalization and reduced credit support (1982-86)

By the end of 1970s, many believed that the effectiveness of the government-controlled strategy for economic growth in the 1960s and 1970s had diminished and should not be perpetuated in the 1980s.^{21/} Government intervention in favor of targeted industries created overcapacity in HCIs and an unbalanced growth between large and small firms. Financing a large portion of investment with high-powered money caused chronic inflation. Recognizing the seriousness of the problem, the government attempted to reduce the scope of credit intervention. During 1981-83, commercial banks were privatized. The interest rate gap between policy loans and general loans was almost completely eliminated in 1982 (see Table 3). In addition, the government reduced the number of industries eligible for policy loans and moved away from industry-specific targets toward functional support, such as for R&D.

^{21/} Cho and Cole (1992) discuss the changes in financial policies in the 1980s.

Table 3. Interest rates, 1964-1990

Years	Inflation (CPI)	Time deposit ^(a)	Bank loans			Curb market
			General	NIF ^(b)	Export	
1964	-	15.0	16.0	-	8.0	61.8
1965	-	30.0	26.0	-	6.5	58.9
1966	11.2	30.0	26.0	-	6.0	58.7
1967	10.9	30.0	26.0	-	6.0	56.7
1968	10.8	26.0	25.2	-	6.0	56.0
1969	12.3	24.0	24.0	-	6.0	51.4
1970	15.9	22.8	24.0	-	6.0	50.2
1971	13.5	22.0	22.0	-	6.0	46.4
1972	11.7	15.0	15.5	-	6.0	39.0
1973	3.1	12.6	15.5	-	7.0	33.2
1974	24.3	15.0	15.5	12.0	9.0	40.6
1975	25.3	15.0	15.5	12.0	9.0	47.9
1976	15.3	15.6	18.0	14.0	8.0	40.5
1977	10.1	15.8	16.0	14.0	8.0	38.1
1978	14.4	16.9	19.0	16.0	9.0	41.7
1979	18.3	14.4	19.0	16.0	9.0	42.4
1980	28.7	19.5	20.0	19.5	15.0	44.9
1981	21.3	16.2	17.0	17.5	15.0	35.3
1982	7.2	8.0	10.0	10.0	10.0	33.1
1983	3.4	8.0	10.0	10.0	10.0	25.8
1984	2.3	10.0	11.5	11.5	10.0	24.8
1985	2.5	10.0	11.5	11.5	10.0	24.0
1986	2.8	10.0	11.5	11.5	10.0	23.1
1987	3.0	10.0	11.5	11.5	10.0	22.2
1988	7.1	10.0	13.0	11.5	10.0	21.2
1989	5.7	10.0	12.5	11.5	10.0	18.9
1990	8.6	10.0	12.5	11.5	10.0	20.4
1991	9.3	10.0	12.5	11.5	10.0	21.2

(a) One-year time deposit at bank.

(b) National Investment Fund.

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

However, large-scale restructuring of industrial firms in the mid-1980s required that the government continue to intervene in credit markets. As discussed later, the corporate sector's debt ratio increased rapidly under government-led industrial financing. As world recession continued after the second oil-shock, many debt-ridden firms became insolvent, particularly firms in the overseas construction, shipping, textile, machinery, and lumber industries. The firms in these industries generated a huge amount of NPLs. Given concerns about unemployment and financial instability, the government decided to bail out insolvent firms. It also provided financial incentives to creditor banks to write off bad debts, extend debt maturity, and replace existing debt with a longer-term debt at a more preferable rate. To induce mergers and takeovers by sounder firms, the government offered financial packages that included

cheap bank loans, and supplied a significant amount of new loans (what it called "seed money").^{22/} To mitigate the financial burden of involved banks, BOK delivered a special loan of about 1.8 trillion won (which comprised 5 percent of total bank loans) at the exceptionally low interest rate of 3 percent annually; the general bank loan rate was around 12 percent. Again, the central bank was the lender of last resort.

During this period, SMCs were placed higher on the list of priorities for credit allocation with the government's attempt to promote balanced growth. In 1983, BOK extended the discount window to SMCs for R&D activities, environmental protection investment, and bills associated with financing the purchase of SMC products. The government tightened monitoring of the required ratio of SMC loans to total loans. It also required that NBFIs, such as short-term financing companies, meet the SMC lending requirement. (Annex II discusses the evolution of SMC financing in Korea.)

Growing emphasis of SCPs on sectoral balance and redistribution (1987-91)

In 1986, the Korean economy began to run a large current account surplus. The economy was booming, with annual growth rates above 10 percent. The solid economy spurred further attempts to liberalize the financial sector and to reduce policy-based loans, especially export credit. The large current account surplus made monetary control difficult, and put pressure on BOK to reduce its policy-based rediscount facilities.

In reducing the policy loans, BOK cut those for large corporations first. For instance, per-dollar export credits for large firms fell from 740 won at the end of 1985 to 175 won at the end of 1987 (see Table 4). Since February 1988, large corporations have been excluded completely from export credit programs. Furthermore, since February 1989, BOK has excluded the commercial bills of large corporations from the bills eligible for BOK rediscounting.

^{22/} For instance, the shipping industry was rationalized to facilitate its 1984-85 restructuring. Sixty-three shipping companies were merged to 17, and about 3 trillion won of loan principal and interest owned by the shipping companies was rescheduled to be repaid over a 20-year period after a 10-year grace period at a very low interest rate. Nam (1990) and J.K. Kim (1991) provide more details on the bail-out policy in the mid-1980s.

**Table 4. Proportion of export loans rediscounted by the Bank of Korea
(Won per dollar of export)**

	1985	1986	1987	1988	1989
Large firms	740	670	175	0	0
Small and medium size firms	740	700	520	450	550
Won/dollar rate	890	861	792	684	680

Note: Figures are as of the end of each year.

Source: Bank of Korea, *"The 40-year History of the Bank of Korea."*

Recognizing the distortionary impact of direct interventions, and seeing that direct subsidies for targeted industries were increasingly becoming the subject of trade friction, the government changed its industrial policy from directed credit support to indirect, nonspecific credit support. As such, the government confined its credit intervention to "structural adjustment" and changed its mode of intervention from industry-specific support to function-oriented support, such as for R&D.

Political democratization increased the demand for social equity and income redistribution. Credit policies placed more emphasis on social equity. Many policy loans were made available to previously disadvantaged sectors, such as SMCs, agriculture, and housing. Consequently, a growing share of bank loans was allocated to SMCs (Table 5).

**Table 5. Share of loans to SMCs and the 30 largest Chaebols by domestic banks ^(a)
(Percent)**

	1988	1989	1990	1991
Loans to SMC	48.1	50.1	55.5	56.8
Loans to the 30 largest Chaebols	23.7	20.7	19.8	20.4

(a) Domestic banks include DMBs only.

Source: Bank of Korea, and Office of Bank Supervision.

Yet, at the same time, credit control over large business groups was intensified to ease the concentration of bank loans to Chaebols, in response to severe public criticism. In 1987, the basket control of credit system (credit ceilings) was introduced to limit the shares of bank loans to the nation's 30 largest business groups. Furthermore, to prevent corporate capital structures from deteriorating through their excessive borrowing and to increase credit to SMCs, the Bank Supervisory Board intensified supervision so that the 30 largest conglomerates would self-finance a certain proportion of their new investment by disposing of their shareholdings in affiliates or real estate holdings. Specifically, the Board enjoined the conglomerates to repay their debts by raising new capital in the stock market. This step led to a gradual reduction in the share of bank loans to the 30 largest conglomerates—from 24 percent in 1988 to 20 percent by the end of 1991 (Table 5).

4. POLICY-BASED LOANS: SIZE, STRUCTURE, SOURCES OF FUNDS, AND DISTRIBUTION

It is not easy to define policy-based loans in Korea. Because all major banks were owned by the government, which also set the interest rates for bank loans substantially lower than the market rate, all bank loans could be considered policy loans.^{23/} Credit support for priority industries can be generated in essentially two ways. The first is to establish explicitly earmarked credit programs, such as those for exports, agriculture, fisheries, and SMCs. Loan eligibility is based on the explicit program and borrowers receive loans at preferential rates. The second is through government directives, administrative guidance, and ad hoc interventions. These loans are not earmarked specifically; their conditions are the same as general bank loans, without preferential rates. But with the existence of excess demand for loans and severe credit rationing, the allocation of bank credit itself was a great favor. In Korea, the banks were under government control and the loans allocated by discretionary government intervention were substantial (that is, the second type of policy loans), if not more than the loans allocated under explicit programs. It is, however, not possible to estimate the amount of these loans. These loans were usually made according to the government's assessment of the progress of specific key projects and the constraints facing specific firms or industries.^{24/} The decisions were usually made in consultation between the government and business sectors, and after close monitoring of progress by the government. For example, when the government assessed the progress of plant constructions for the chemical industry complex and found that they were well behind schedule because the lending banks were providing insufficient support, it summoned the bank presidents and asked them for greater cooperation in supporting the project. Moreover, when exporters reported in the monthly export promotion meetings that the international market was slow and that they had begun accumulating inventory, the government urged bankers to extend greater working capital credit to exporters. In many cases, the establishment of new credit programs was also the product of this close consultation between government and business.

This section focuses on policy loans that fell under explicit credit programs. We define policy loans as loans with preferential interest rates and availability that are supported by the central bank's automatic rediscounts.^{25/} Sources of funding include funds mobilized by

^{23/} *Of course, the government did not direct all bank loans.*

^{24/} *Financial packages to rescue troubled firms or industries included large sums of this second type of policy loan.*

^{25/} *Defining policy loans as such is not completely so simplistic. For example, a certain proportion of commercial bills that were issued by some sectors (such as SMCs) and were discounted by commercial banks were automatically rediscounted by BOK at the preferential rate, despite the fact that the*

DMBs through deposits, funds mobilized by external borrowing and government funds. Specifically, in this section, policy loans are export loans, equipment loans to the export industry, discounted commercial bills,^{26/} loans to the agriculture/fisheries/livestock (AFL) sectors, NIF, housing loans, foreign currency loans, and other government funds.

The size and structure of policy loans: Period trends

According to our definition, policy loans in Korea have indeed been substantial (Table 6). They constituted about half of the total credit by domestic financial institutions in the 1970s, but fell gradually to about 30 percent of total credit in the 1980s, with the expansion of NBFIs which were not required to extend policy loans. Between 1973 and 1991, the share of policy loans in total loans from DMBs averaged 61.2 percent annually, but it fell from 63.0 percent during 1973-81 to 59.4 percent during 1982-86, because policy loans to large firms were curtailed. However, the share stabilized during 1987-91 as policy loans for the SMC, housing, and agricultural sectors increased while policy loans for exports fell.

During 1973-81, export loans captured the largest share of total policy loans supplied by DMBs (21.3 percent), but their share has fallen significantly since the mid-1980s, with the emergence of the large current account surplus. During 1987-91, the share of export loans fell to 5.2 percent. The NIF, which was established to finance HCI projects, captured about 5 percent of total bank loans during the 1970s and early 1980s, but has gradually been phased out since the mid-1980s. The share of discounted commercial bills of total policy loans has continued to increase since 1982, reaching 16.5 percent during 1987-91. These bill discounts were meant primarily to support SMCs. Housing loans also increased sharply in the 1980s.

commercial bank discount rate itself was not preferential. In this case, banks had the option of choosing among potential borrowers in the specified sector. But our definition of policy loans include these loans, in the sense that they are supported specifically by preferential BOK lending.

^{26/} *Although including discounted commercial bills in our definition of policy loans could be criticized because they are not lent at the preferential rate by commercial banks, they are, in fact, supported by preferential BOK rediscounts.*

**Table 6. Share of policy loans by deposit money banks and non-bank financial institutions
(Percent)**

	1973-81	1982-86	1987-91	Average during entire period 1973-91
DMB loans (A)				
Government funds	7.5	7.4	8.0	7.6
NIF	4.3*	5.1	3.0	4.2
Foreign currency loans	21.1	19.7	19.4	20.3
Export loans	21.3	16.9	5.2	16.2
Commercial bills discounted	8.0	13.9	16.5	11.6
Special funds for SMCs	5.9	5.6	6.5	6.0
Loans for AFL	6.1	5.3	7.4	6.2
Housing loans	8.0	13.1	14.1	10.8
Others (a)	17.7	13.1	20.0	17.1
Policy Loans Total	100.0	100.0	100.0	100.0
NBFI loans (B)				
KDB loans	91.9	71.7	83.7	84.8
(NIF)	(25.7)*	(18.5)	(7.9)	(19.5)
EXIM loans	8.1	28.3	16.3	15.2
(NIF)	(2.5)*	(4.7)	(2.3)	(3.0)
Policy Loans Total	100.0	100.0	100.0	100.0
(A) DMB loans	63.0	59.4	59.5	61.2
(B) NBFI loans	48.0	32.3	15.3	35.9
(A) + (B) domestic credit	48.9	40.8	30.9	42.4

* Annual average during 1974-81.

(a) Includes loans for imports of key raw materials, loans on mutual installment, loans for machinery, equipment loans to the export industry, special equipment funds, and special long-term loans.

Note: Figures in the table are annual averages.

Source: National Statistical Office, "Korean Economic Indicators," various issues. Bank of Korea, "Monthly Bulletin," various issues.

Sources of funds

SCP in Korea has two key features when compared with credit policy in Japan or Taiwan (China): (1) the source of policy loans has depended heavily on central bank credits and the deposits mobilized by DMBs, and much less on fiscal funds or government-mobilized funds (such as postal savings); and (2) not only specialized banks but also commercial banks were

involved heavily in policy-based lending. Only non-bank financial institutions and foreign banks were not required to extend-policy-based loans.^{27/}

During 1973-91, the share of government funds in total policy loans accounted for only 7.6 percent (again see Table 6). In addition, during the same period, 35.1 percent of total policy loans by DMBs were financed by central bank credit (Table 7). BOK's support for export credit reached 51.1 percent of total central bank lending during 1973-81, but fell to 26.1 percent during 1982-86, and further to 7.4 percent during 1987-91. Conversely, the share of BOK rediscounts on commercial bills has increased substantially since the mid-1980s, and reaching 26.5 percent in 1987-91, so as to induce SMC lending by DMBs. The share of general loans by the central bank has increased sharply since the mid-1980s, primarily as a response to BOK's special loans for restructuring ailing firms in shipping, overseas construction, and electronics—providing 1.7 trillion won during 1985-87 at the low interest rate of 3 percent annually.

During 1973-91, BOK provided a large amount of support for DMB's key policy loans (Table 8). The ratio of central bank support for export credits and for commercial bill discounts by DMBs were respectively 70.8 percent and 49.2 percent, while the ratio for agriculture/fisheries/livestock (AFL) loans was 18.5 percent. These ratios imply that the discount policy of BOK has been the predominant tool for directing commercial bank loans to strategic sectors; in Korea, directed credit has been relied on heavily for high powered money creation.

Table 7. Loans and discounts by the Bank of Korea
(Percent)

	1973-81	1982-86	1987-91	1973-91
Rediscounts on commercial bills	10.9	15.5	26.5	16.2
Export loans	51.1	26.1	7.4	33.2
Loans for AFL	3.4	2.1	3.4	3.1
General loans	18.3	46.9	57.2	36.1
Others	16.3	9.5	5.4	11.6
Total	100.0	100.0	100.0	100.0
DMB policy loans as share of total	35.5	42.5	26.8	35.1
DMB loans as share of total	23.1	25.7	18.5	22.6

Source: Bank of Korea, "Monthly Bulletins," various issues.

^{27/} However, they have also been subject to certain loan portfolio requirement for SMC since early 1980s.

**Table 8. Degree of dependence by DMBs
(Percent)**

	1973-81	1982-86	1987-91	1973-91
BOK export loans/DMBs export loans	88.2	65.2	45.3	70.8
Rediscounts on commercial bills/DMBs commercial bills discounted	51.5	47.7	46.8	49.2
BOK loan for AFL/DMBs loan for AFL	21.9	16.8	14.1	18.5

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

DMBs also depended heavily on the central bank for mobilizing loanable funds. For example, between 1963 and 1990 annual average ratios of central bank discount loans to total DMB loans in Korea and Taiwan (China) were 21.3 percent and 22.4 percent, respectively, which were substantially higher than those in Japan, the United States, and the United Kingdom (Table 9). In Taiwan (China), however, large central bank lending reflected the relending of postal savings deposited at the central banks to specialized banks before early 1982.^{28/}

**Table 9. International comparison of the ratio of central bank loans to DMB loans
(Percent)**

	1963-70	1971-80	1981-90	1963-90
Korea	19.0	21.8	22.6	21.3
Taiwan (China)	28.2	30.9	9.2	22.4
Japan	4.7	3.3	2.4	3.4
United States	0.5	0.7	0.1	0.4
United Kingdom	0.3	0.3	0.1	0.2

Source: Bank of Korea, "Economic Statistics Yearbook," various issues; International Monetary Fund, "International Financial Statistics"; and Directorate-General of Budget, Accounting and Statistics, "Statistical Yearbook of the Republic of China, 1991."

Allocation of bank credit by industry

How have these extensive directed credit programs affected the allocation of bank credit across various industries? As shown in Table 10, the share of total bank loans captured by the manufacturing sector increased from 46.1 percent in 1970 to 53.8 percent in 1980, but

^{28/} Since 1982, only 25 percent of postal savings have been channeled to the central banks; the rest have been lent directly to specialized banks.

fell subsequently to 44.0 percent in 1990 in response to an increase in the share of loans to the service sector in the 1980s. The relative availability of bank credit among industries can be calculated by dividing the share of bank loans by the share of GDP of each industry (A/B in Table 10). The ratio for the manufacturing sector was 2.16 in 1970, fell to 1.81 in 1980, and declined further to 1.51 in 1990. It was quite high when compared to the ratios of non-manufacturing industries, such as service and AFL, reflecting the government credit policies to support industrial growth. From 1970 to 1990 the ratio for HCI was the highest of all industries, indicating that the credit policies had strongly supported HCI development. The low ratio for the service sector reflects the government's guidance against lending to these sectors.

Table 10. Allocation of bank loans output share by industry
(Percent)

	Share of loans (A)			Share of GDP (B)			Loans as share of GDP (A/B)		
	1970	1980	1990	1970	1980	1990	1970	1980	1990
Agr/fish/mining	12.6	7.8	6.6	28.0	16.2	9.6	45	48	69
Manufacturing	46.1	53.8	44.0	21.3	29.7	29.2	216	181	151
(HCI: C)	(22.6)	(32.1)	(30.2)	(8.6)	(16.5)	(18.1)	(263)	(195)	(167)
(Light industry: D)	(23.5)	(21.7)	(13.8)	(12.7)	(13.2)	(11.1)	(185)	(164)	(124)
C - D	-0.9	10.4	16.4	-4.1	3.3	7.0	78	31	43
Power/construction	12.7	14.6	9.3	6.5	10.4	15.4	195	140	60
Service ^(a)	28.6	23.8	40.1	44.2	43.7	45.8	65	54	88
Total	100.0	100.0	100.0	100.0	100.0	100.0			

(a) The service sector includes wholesale, retail trades, hotels, transportation, real estate, and recreational and entertainment businesses.

Note: Bank loans include loans from DMBs and the KDB.

Source: Bank of Korea, "Monthly Bulletin," various issues; Korea Development Bank, "Monthly Bulletin," various issues.

Interest rate subsidy

Policy loans had been accompanied by large interest rate subsidies in 1960s and 1970s. As shown earlier in Table 3, export credit received enormous interest rate subsidies. While the bank rate for general loans increased to 26 percent in 1965, the interest rate for export credits remained at 6.5 percent (compared with a prevailing curb-market rate of 59 percent). Interest rates for the Machinery Industry Promotion Fund (MIPF) and NIF were also preferential—3 to 5 percent lower than those for general bank loans.

5. THE ALLOCATION OF FOREIGN LOANS

Foreign capital—especially foreign loans^{29/}—played a large role in Korea's financial sector policy. As with domestic credit, the government also tightly controlled allocation of foreign credit. From 1962 to 1991, the ratio of total investment to GNP was 27.4 percent annually. Six percent was financed by foreign capital, primarily loans. Hence, approximately 22 percent of total investment during this period was financed by foreign capital. Between 1962 and 1966 (when the Korean economy began to surge), 53 percent of the total investment was financed with foreign capital (Table 11).

Table 11. Growth, investment, and savings in Korea
(Percent)

	1962-66	1967-71	1972-76	1977-81	1982-84	1985-91	1962-91
GNP growth rate	7.9	9.7	10.2	5.7	7.3	10.0	8.6
Investment (% of GNP)	16.3	25.4	29.0	31.0	28.2	32.7	27.4
Domestic saving (% of GNP)	8.0	15.1	20.4	25.5	24.8	34.8	22.1
Foreign saving (% of GNP)	8.6	10.0	6.7	5.6	3.2	2.1	6.0
Foreign saving investment	52.8	39.4	23.1	18.1	11.3	6.4	21.9

Source: Economic Planning Board, "White Book on External Debts," 1988; Bank of Korea, "The National Accounts," various issues.

Korean firms that wished to borrow abroad were required to obtain the approval of the EPB. The Board also determined the total amount of required loans according to investment priorities for projects and enterprises specified by the five-year economic plans. MOF closely monitored all approved foreign borrowings and their repayment. In addition, the government guaranteed virtually all foreign loans. In 1966 the government revised the Foreign Capital Inducement Act to allow banks to provide guarantees without approval from the National Assembly. KEB (one of the specialized banks in Korea) and commercial banks could issue repayment guarantees for private foreign loans without prior authorization from the National Assembly.^{30/} Since the government held the majority of shares in commercial banks, KDB, and the KEB, the government in effect provided their repayment guarantees. As such, the government

^{29/} Foreign direct investment in Korea was not significant, due in part to its dearth of natural resources that could attract foreign investments (as was the case in Southeast Asia and Latin America), and in part to Korea's restrictive policy on foreign investment.

^{30/} Specifically, loans that commercial banks found difficult to guarantee (for example, large loans to public enterprise) received government guarantees through the KDB.

could use the allocation of foreign loans as a policy tool for industrial financing, without political intervention. As of 1975, for example, domestic banks provided repayment guarantees for 88 percent of the total commercial loans (Table 12).

Table 12. Repayment guarantees of commercial loans

	Amount (Millions of US\$)	Composition ratio (percent)
Commercial bank	92	4.2
Local bank	12	0.6
Korea Exchange Bank	1,786	81.4
Korea Development Bank	303	13.8
Total repayment guarantee (A)	2,193	100.0
Total Commercial Loan (B)	2,491	88.0 (A/B)

Note: Table consists of loans outstanding at the end of 1975.
Source: C. J. Kim (1976), p.258.

In 1962, Korea's total external debt was only \$89 million, or 3.8 percent of GNP (Table 13). However, as the government normalized relations with Japan in 1965 and revised regulations on foreign capital inducement in 1966 to promote the flow of private capital, the inflow of foreign capital, especially from Japan, started to increase sharply and reached \$2.3 billion (23.7 percent of GNP) in 1970.

In the 1970s and early 1980s, foreign loans again increased sharply in response to the heavy investment requirements by HCI. The recycling of oil funds and the expansion of eurocurrency loans made it possible for Korea to rely heavily on foreign loans during this period. From 1970 to 1985, outstanding debt increased by \$44.5 billion, pushing the debt/GNP ratio to 55.9 percent. By 1985, Korea had become the third largest debtor, behind only Brazil and Mexico. Over the next four years (1986-89), the external debt stock began to decline as Korea ran a current account surplus; in 1989, debt amounted to \$29.4 billion (14.4 percent of GNP). But as a current account deficit emerged in 1990, the debt increased again; in 1991, the total volume of external debt amounted to \$39.1 billion (14.5 percent of GNP).

Table 13. Korea's external debt
(Millions of US\$)

Year	Mid- and long-term (a)		Short-term (b)		Total debt		Total debt as a percentage of GNP	DSR (c)
1962	89	(100.0)	0	(0.0)	89	(100)	3.8	0.7
1965	203	(98.5)	3	(1.5)	206	(100)	6.9	5.0
1970	1,840	(80.8)	437	(19.2)	2,277	(100)	23.7	8.2
1975	6,137	(72.6)	2,320	(27.4)	8,457	(100)	41.8	12.0
1980	17,794	(65.5)	9,376	(34.5)	27,170	(100)	48.2	13.1
1985	36,030	(77.0)	10,732	(23.0)	46,762	(100)	55.9	18.7
1987	26,277	(73.9)	9,261	(26.1)	35,538	(100)	30.0	29.6
1989	18,423	(62.7)	10,948	(37.3)	29,371	(100)	14.4	9.7
1990	17,358	(54.8)	14,341	(45.2)	31,699	(100)	13.1	8.0
1991	21,898	(56.0)	17,237	(44.0)	39,135	(100)	14.5	5.8

Note: Table includes loans outstanding at the end of each year.

(a) Includes public loans, private loans, bank loans, foreign currency bonds, the International Monetary Fund (IMF) loans, and foreign currency funds borrowed by branch offices of foreign banks from their headquarters (with a maturity of more than one year).

(b) Short-term borrowings by the private and financial sectors (with a maturity of less than one year).

(c) Debt service ratio.

Source: Ministry of Finance, and the Bank of Korea.

The borrowers of foreign loans can be categorized as public, private, and banking sectors (Table 14). In the early 1960s, almost all private sector borrowing was for supplier credits. However, as the number of foreign bank branches increased in Korea, they also provided trade-related foreign currency loans. The domestic banking sector also mobilized external funds by borrowing directly from the international capital market, which had increased rapidly in the 1970s with the oil fund recycling and the growth of Eurobank market (Table 14). All of these private loans had to be preapproved by the government.

Table 14. Composition of foreign loans by borrower
(Percent)

Year	Public sector	Banking sector (a)	Private sector (b)	Total
1961-69	21.6	3.5	74.9	100
1970-76	31.7	16.5	51.9	100
1977-81	26.5	31.8	41.8	100
1982-86	25.2	38.2	36.6	100
1987-91	23.8	45.7	30.5	100
1961-91	25.8	23.4	50.8	100

(a) Includes foreign loans borrowed by the banking system, including BOK.

(b) Includes commercial loans, trade credits, and foreign currency bonds.

Source: Bank of Korea.

From 1959 to 1982, commercial loans were allocated primarily to the manufacturing industry, especially to HCIs (Table 15); public loans went primarily to the service sectors (largely for infrastructure). During this period, 59 percent of total commercial loans were allocated to manufacturing industries, of which 46 percent were allocated to HCI-related projects. It is interesting to note that since most public loans were used to finance essential infrastructure (such as railroads, roads, and power plants), the majority of foreign loans could be used to support HCI and other industrial projects.

**Table 15. Composition of public and commercial loans by industry
(Percent)**

Year	Type of loan	Agriculture, forestry & fisheries	Manufacturing		Service (a)	Total
			HCI	Light		
1959-66	Public	7.5	11.7	8.3	72.5	100
	Commercial	22.3	43.4	31.4	2.9	100
1967-71	Public	42.2	6.8	1.6	49.4	100
	Commercial	3.6	31.6	23.9	40.8	100
1972-76	Public	18.2	6.1	0.0	75.8	100
	Commercial	2.2	42.4	23.7	31.7	100
1977-82	Public	17.0	1.5	0.3	81.2	100
	Commercial	0.6	46.0	10.6	42.8	100
1959-82	Public	19.0	3.0	0.4	77.6	100
	Commercial	1.6	43.6	15.4	39.5	100
	Total	9.6	24.9	8.5	57.0	100

(a) Services include construction, electricity, transportation, and so forth.

Source: Cha (1986).

From 1966 to 1986, the real cost of foreign loans was usually lower than the controlled domestic bank rates (Table 16), giving the private sector a strong incentive to borrow from abroad. By selectively approving foreign borrowings, the government could set priorities among sectors. Yet the cheap cost of foreign loans under strict control on the capital account opened the door for some corruption in the loan approval process.

Table 16. The cost of foreign capital
(Average annual percent)

	1966-70	1971-75	1976-80	1981-86	1987-91
Domestic bank lending rate (A) (a)	24.4	17.4	18.0	11.9	10.0
Curb market interest rate	54.2	40.1	41.4	27.3	21.0
Foreign interest rate (B) (b)	7.2	7.9	9.5	10.8	7.4
Exchange rate depreciation (C) (c)	3.1	9.3	4.7	6.4	1.1
Domestic inflation rate (D) (d)	15.4	18.8	20.9	5.8	7.2
Interest rate differential between home and foreign market (A - B - C)	14.1	0.2	3.8	-5.3	1.5
Real cost of borrowing abroad (E + C - D)	-5.1	-1.6	-6.7	11.4	1.3

(a) Discount rate of commercial bills of DMBs.

(b) 90-day Euro-dollar rate.

(c) Period average.

(d) GDP deflator.

Source: Collins and Park (1989), p.177; Bank of Korea, "Monthly Bulletin," various issues.

6. THE EFFECTIVENESS OF CREDIT POLICIES IN KOREA

The effectiveness of Korean credit policies extends to two broad areas: their contribution to the growth of industries or sectors by easing access to subsidies and capital, and their impact as an instrument of industrial policy in securing private sector compliance with government policy goals by becoming an active risk partner to motivate private entrepreneurship, and by managing the risks of the national economy.

Contributing to growth

The effectiveness of credit policies in stimulating economic growth can be addressed with three questions. First, did directed credit increase access to and reduce the cost of capital for the targeted sectors? Second, did credit supports contribute to the growth of the targeted sector? And, third, did the targeted sector's growth contribute to the rapid growth of the economy? Here, we address mainly the first two questions, since the last question can be answered only in the context of general equilibrium analysis, which is beyond the scope of this paper.

Impact on access and the cost of capital among priority sectors

To determine whether policy loans reduced the priority sector's cost of capital, we compare the average cost of borrowing across different sectors—the policy-favored sector and the non-favored sector. BOK survey data on firms provides some evidence about the extent to which government policy intervention in the credit market affected access to credits and their cost by different sectors of the economy (Table 17). To measure access to credit, we divided total bank loans and foreign loans (since they were also policy directed) by the total assets of each sector during 1973-90. During the period, export sectors and HCIs, which were priority sectors, had both greater access and a lower cost of borrowing. Moreover, the manufacturing sector as a whole enjoyed a much lower cost of capital than did the service sector, which was not a favored sector in the economic growth strategy.

During the period, export-oriented firms enjoyed greater access to credit and lower borrowing costs than did domestic-oriented firms. But the privilege of export firms has fallen significantly since 1986, when Korea ran a large current account surplus and reduced its export credit programs.^{21/} HCIs also had greater access to credit than did the light manufacturing industry. Despite the high risk of HCI development, its borrowing cost was significantly lower than the cost to light industry, because HCIs received substantial credit support, including low-cost funds from NIF. During the initial years of the HCI drive (1973-75),

^{21/} The classification of export-oriented firms and domestic-sales-oriented firms is based on the share of total exports in the total sales of a firm; if it is higher than 50 percent, the firms are classified as export-oriented, and vice versa. Because the export credit programs supported "export activities" rather than focusing on the export industries, the real impact of export credit support on "exports" might have been greater than shown in Table 17.

the ratio of bank and foreign credit to total assets in HCIs was lower than the ratio for light industries. But in 1976, as a growing share of domestic bank and foreign loans were allocated to HCIs, their ratio began to run higher.

During 1973-81, large firms had substantially greater access to both credit and borrowing costs than did small firms, as well as greater access to subsidized policy loans under the HCI drive. However, during 1982-86, fewer policy loans were made to large firms, and the gap narrowed. Then, from 1987 to 1990, the sharp increase in policy loans to SMCs reversed the accessibility. *This shift indicates that Korean credit policies were quite effective at providing greater access and lower-cost funds to the sectors that were deemed policy priorities.*

Table 17. Credit access and borrowing costs by sector
(Percent)

		1973-81	1982-86	1987-90
Access to borrowing (a)				
Manufacturing		40.4	31.5	27.7
Large firms	(A)	40.9	31.6	27.0
SMCs	(B)	32.7	31.3	31.4
(A) - (B)		8.2	0.3	-4.4
Export	(C)	45.1	35.9	30.3
Domestic	(D)	37.6	28.8	26.3
(C) - (D)		7.5	7.1	4.0
HCI	(E)	40.7	32.2	28.2
Light industry	(F)	39.8	30.3	27.0
(E) - (F)		0.9	1.9	1.2
Average borrowing cost (b)				
Manufacturing		13.3	14.0	13.0
Large firms	(G)	13.0	14.0	12.6
SMCs	(H)	14.9	14.2	14.3
(G) - (H)		-1.9	-0.2	-1.7
Export	(I)	12.6	12.7	12.6
Domestic	(J)	14.0	14.8	13.2
(I) - (J)		-1.4	-2.1	-0.6
HCI	(K)	12.1	13.5	12.7
Light industry	(L)	14.9	14.9	13.5
(K) - (L)		-2.8	-1.4	-0.8
Memo items:				
Wholesale, retail, and hotel		17.3	16.9	15.3

(a) Bank loans and foreign loans/total assets.

(b) Average borrowing cost = financial cost/(corporate bond + foreign loans + loans from the financial institutions).

Source: Bank of Korea, "Financial Statements Analysis," various issues.

Impact on growth of priority sectors

To what extent, then, did credit support spur the growth of priority sectors or industries? Here, a direct estimate is not possible. Since credit supports were provided in conjunction with other incentives, it is not easy to isolate the impact of credit support from other incentives. Thus, we can address this issue only indirectly; we do so by studying three cases. We first examine the impact of credit support on the take-off of exports in the 1960s. Second, we discuss the impact of credit support to HCLs on their rapid growth in the 1970s. Third, we examine the impact of financial support from the government on the development of an infant industry—the steel industry, illustrated by the growth of Pohang Iron and Steel Company, Ltd. (POSCO).

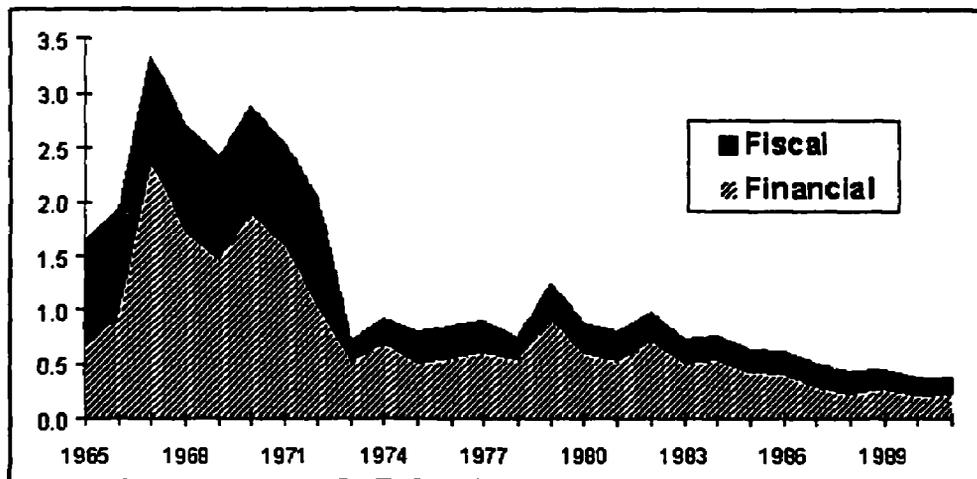
Impact on export growth

In order for exporters to respond to foreign demand, they should have access to the trade financing necessary to fill export orders (Rhee 1989). In many developing countries, financing mechanisms that are taken for granted in industrial countries, such as short-term money markets and bill discount markets are rudimentary or nonexistent; such was the case in Korea in the 1960s. Thus, one way to provide a market for bill discounts to exporters was to establish the central bank's rediscount facility (Rhee 1989). Although exporters in Korea in the 1950s received some selective credit support from central bank lending, export credit programs were formalized only in the 1960s. The total amount of credits supported by export credit programs increased from 4.5 percent of total bank credit during 1961-65 to 7.6 percent during 1966-72, and to 13.2 percent during 1973-81. In addition, interest rate subsidies for export credits were substantial. During 1966-72, the interest rate for export credit was 17.1 percent lower on average than the general loan rate (see earlier Box 1, Table A).^{32/} Exporters also received support from various other credit programs (such as equipment fund for export industries) and favorable credit allocations as part of directives or administrative guidance.

Credit subsidies comprised the major component of total export subsidies during Korea's export take-off period (Figure 4). Total export subsidies peaked in 1967, when the total interest rate subsidy was 2.3 percent of the total value of exports, far exceeding the fiscal subsidy of 1.0 percent in the same year. The subsidies declined sharply in 1972, when the general bank loan rate was reduced, thereby reducing the gap between export and general loans.

^{32/} This subsidy has gradually been reduced since 1972, and was almost phased out in 1982, when the government unified the bank loan rates.

Figure 4: Subsidies to export (% of total export value)

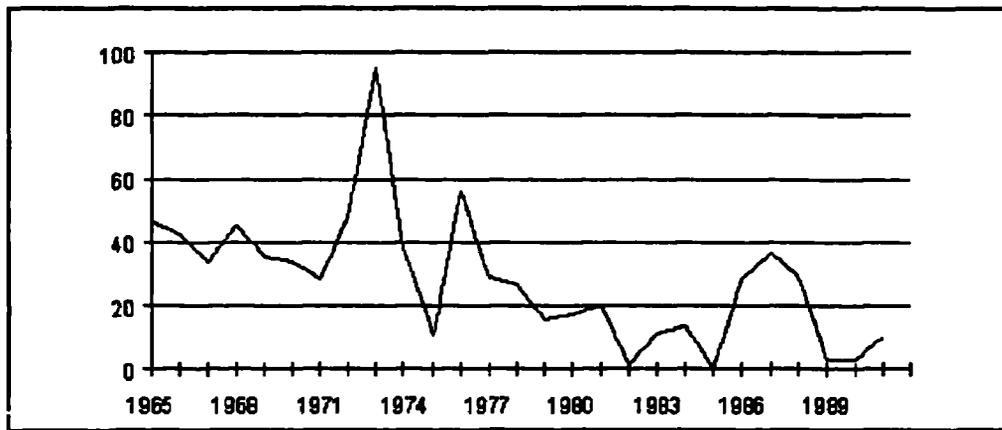


Note: The amount of financial subsidies is the size of export-related loans multiplied by the interest rate differential between the average borrowing rate for manufacturing industry and interest rates for export-related loans. The tax subsidy ratio is the total amount of tax subsidies from export reserves and special depreciation systems divided by the total value of exports. If the amount of the financial subsidy is based on the gap between the market interest rate and the export loan rate, the credit subsidy would be much larger. The tax subsidy from the export reserve system is the amount of tax savings that come from corporate tax exemptions on the export reserve in a given year. That is, it is calculated by subtracting the net present value of the deferred tax on the export reserve that would be paid over a three-year period after a two-year grace period from the tax on the export reserve that should have been paid in a given year. The tax subsidy from a special depreciation system is the net present value of the tax savings from the added depreciation that is allowed within 30 percent of the normal depreciation on fixed assets purchased by an exporter.

Source: Korea Trader's Association (1993).

The extent to which credit subsidies contributed to the take-off of Korean exports in the 1960s is unclear. (Figure 5 shows the export growth rate throughout the economic development period.) A competitive exchange rate (with a major devaluation of the won in 1964), and various institutional supports also contributed to export growth. The expanded accessibility of credit (subsidized by low interest rates) was crucial to enabling Korean exporters to fill foreign orders and to explore foreign markets. Since export marketing requires substantial fixed costs in the beginning stages, and involves tremendous externalities, government subsidies were largely justifiable; private efforts and investment in the exploration of external markets might not have been sufficient to fuel the rapid growth. Alternatively, export marketing could have been subsidized by the budget. Given the poor budgetary situation in the 1960s (as we discussed earlier), the use of fiscal subsidies was clearly limited. Access to credit seems to have been more essential for supporting the continuous growth of exports than were interest rate subsidies.

Figure 5: Growth of exports (%)



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

Impact on HCI development

The mammoth investment requirement for the HCI development could be met only with the government's involvement in its financing. Reflecting the long gestation period of HCI investment, the government provided low interest rate loans with long maturities for equipment investments through the NIF, the KDB, other banks and foreign borrowings. As discussed in the previous section, bank loans were allocated favorably to the manufacturing sector, especially to HCIs in the 1970s. The manufacturing sector received 46.1 percent of total domestic bank loans in 1970 but contributed only 21.3 percent to GDP. Among manufacturing, HCIs received 22.6 percent of total bank loans but contributed only 8.6 percent to GDP. In 1980, after a decade of the HCI drive, the share of bank credit to HCIs increased further to 32.1 percent, but its contribution to GDP also rose to 16.5 percent. (Table 10, in section 4 provided a detailed breakdown of bank loan allocations by sector.)

NIF was the major credit support program for HCIs, providing preferential maturities and interest rates. At the peak of the HCI drive, its share of total bank credit to HCIs was about one-quarter but it financed more than 60 percent of total equipment loans to HCIs (see Annex III, Table III.5). Credit support was provided not only by the explicitly designated credit programs such as NIF, but also by government directives to banks to provide more credit. The allocation of foreign loans was also a large part of total credit support. During 1972-76, for example, industries in the manufacturing sector claimed 66.1 percent of the total amount of foreign commercial loans. Of this amount, 64.1 percent went to HCIs (section 4, Table 15 provides a breakdown of the composition of foreign commercial loans.

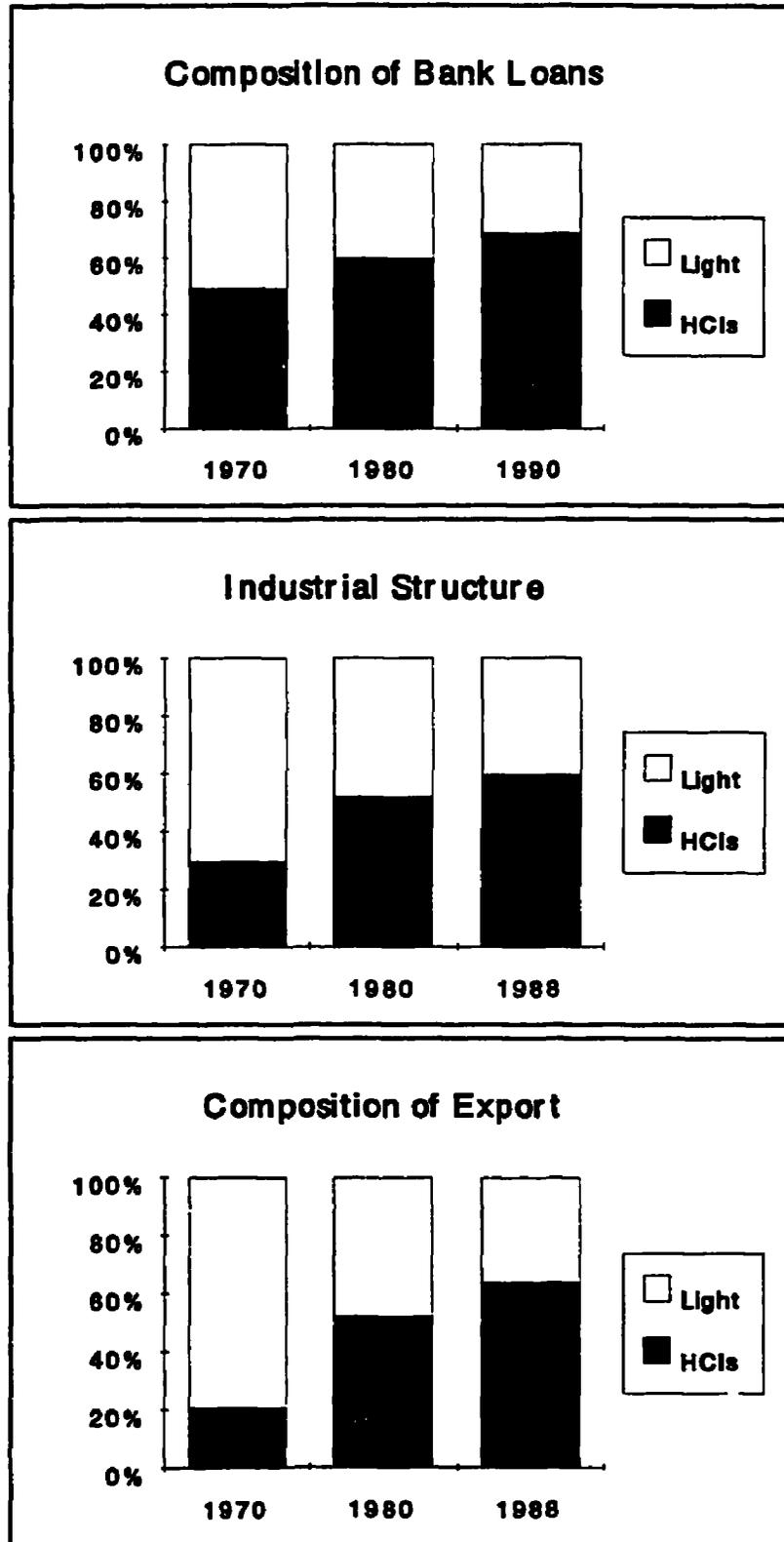
The massive credit support made it possible to invest heavily in HCI in the 1970s. During the late 1970s, almost 80 percent of all fixed investment in the manufacturing sector went to the HCIs (Nam 1992). Consequently, the industrial structure and export composition of Korea changed drastically (Table 18). The expansion of HCI in the 1970s is striking. Within a decade, its share of total industrial output grew more than two and half times, and its share in exports tripled. Moreover, the HCIs' shares in bank credits, output, and exports within the manufacturing sector also expanded rapidly over time (Figure 6). It is obvious that without government intervention in the allocation of credit, quick transformation of the industrial composition, and a discrete jump in the level of industrial development would not have been possible.

Table 18. Industrial structure and export composition: HCI trends 1970-88
(Percent)

	1970	1975	1980	1985	1988
Industrial structure					
Agriculture/fisheries	17.0	12.8	8.3	7.7	6.3
Mining	1.1	0.9	0.8	0.7	0.6
Manufacturing	40.3	50.4	51.0	50.0	52.7
Light	28.4	29.5	24.7	21.7	21.4
HCIs	11.9	20.9	26.3	28.3	31.3
Petrochemical	5.9	10.8	12.6	11.4	10.0
Basic metal	2.0	3.4	5.1	4.9	5.3
Metal/machinery	4.0	6.7	8.6	12.0	16.1
Power/gas/construction	9.8	7.7	10.2	10.4	9.3
Service	31.8	28.2	29.7	31.2	29.4
Total	100.0	100.0	100.0	100.0	100.0
Composition of export					
Light	49.4	45.6	35.2	30.0	29.1
HCIs	12.8	29.0	38.3	47.5	51.4
Petrochemical	5.4	9.2	9.9	12.4	11.0
Basic metal	1.5	4.0	8.1	5.8	5.1
Metal/machinery	5.9	15.8	20.3	29.3	35.4

Source: Bank of Korea, "Input-Output Tables," various issues.

Figure 6: Significance of HCIs and light industries in the manufacturing sector: trends



Source: Bank of Korea, "Economic Statistics Yearbook," "National Accounts," "Monthly Balance of Payments," various issues.

Impact on the development of a specific industry: The case of steel (POSCO)^{33/}

The fervent dream of President Park Chung Hee for a strong steel industry dates back to the early 1960s, when he first equated the steel industry with national power (*Je Chul Bo Guk*).^{34/} But kicking off a steel industry was not easy, since it required a huge amount of capital investment. The government's attempts to solicit foreign capital from the United States, United Kingdom, Italy, West Germany, and Austria continued unfruitfully for several years. The U.S. Export-Import Bank, and multilateral institutions including the World Bank rejected a steel complex plan, based on the projection that Korea's domestic demand for steel was not likely to explode. These institutions pointed to the unsuccessful examples in India, Turkey, Mexico and Brazil.

Despite these obstacles, POSCO, the first integrated steel mill in Korea, was established in 1968. POSCO rapidly became an international competitor, and, with a production capacity of 21 million tons, was the third largest steel company in the world by the end of October 1992. It is also one of the most competitive steel companies. The amount of investment by POSCO throughout its growth was the largest of any single project in Korea's industrial history. POSCO received strong government support, especially in its early stages, and financing was its most critical element of backing.

In the initial phase of smelting-furnace construction, 59.1 percent of total investment funds came from foreign loans. Of the total amount of foreign loans, 81 percent came from Japan (43.4 percent was from the reparations package from the Japanese government, and 37.4 percent from commercial loans), and 13.7 percent came from Austrian commercial loans. Domestic funds consisted primarily of equity contributions (33.2 percent of total investment funds) by the Ministry of Finance, the KDB, and Korea Tungsten Company, a state-owned enterprise. During the initial stage of construction (see Annex IV, Table IV.1), only 7.7 percent of total investment funds came from domestic bank credit (primarily the KDB).

As POSCO began its second phase of smelting-furnace construction, its share of retained earnings in financing investment had risen significantly. It had benefitted not only from a rapid depreciation scheme and a corporate tax reduction, but also, and most importantly, from its "no-dividend" policy to its shareholders—the government, the KDB, and commercial banks (see Annex IV, Table IV.4). The KDB and commercial banks were following a government guidance not to request dividends for a sustained period. When the first phase of construction came to a close, POSCO's credit rating had risen to the point at which it could raise foreign loans on its own and diversify its sources of external funds. After the third phase of construction

^{33/} Annex IV provides a more complete discussion on POSCO.

^{34/} Likewise, Stalin had equated the two, and this is what Japanese militarists meant in the 1930s when they equated steel with rice (Woo, 1991).

began, it gradually reduced its reliance on foreign resources, and significantly increased its borrowing from domestic banks (See Annex IV for a detailed discussion on the role of government and POSCO's development).

As such, the composition of sources for POSCO loans changed considerably between 1974 and 1981. At the end of 1974, 99.8 percent of total loans came from government-guaranteed foreign loans and the KDB (83.3 percent and 16.5 percent, respectively), indicating that POSCO initially depended almost entirely on policy loans. Throughout the 1970s, POSCO began to increase its domestic borrowing, primarily from NIF and the KDB. After 1979, when POSCO was well established, it reduced its loan activities from foreign sources, and relied increasingly on loans from domestic commercial banks and foreign bank branches. By the end of 1981, the composition of its total loan activity had shifted: foreign loans accounted for 65.4 percent, domestic commercial bank loans for 11.3 percent, NIF loans for 9.1 percent, foreign bank branch loans for 6.2 percent and KDB loans for 4.6 percent (Annex IV, Table IV.2).

Thus, domestic policy loans and foreign capital secured by the government were the main source of funding for POSCO. Moreover, the high retained earnings that were a significant source of investment funds, were possible with the no-dividend policy applying to shareholders, the government, and government-owned banks; in 1981, the government held 32 percent, KDB 40 percent, and commercial banks 26 percent of the total equity in POSCO (Annex IV, Table IV.4). Thus, government-led financial support was the most critical source of funds for the successful transformation of POSCO into one of the world's most efficient steel producers, which was then sustained by effective firm-level management and President Park's strong commitment.

Impact on overall economic growth

Did the growth of these credit-supported sectors contribute to the rapid economic growth of Korea? Here, we can only make tentative conclusions. In a sense, it is too early to answer this question, since Korea is still undergoing economic development and may not yet have fully realized the costs or benefits of financial policies.

The one solid conclusion pertains to the growth of exports—which was the main engine of rapid growth in Korea in the 1960s and 1970s. To the extent that credit support was indispensable to export growth, credit support in turn must have been a catalyst for rapid economic growth; but whether the extent of the subsidization was necessary to propel the growth of exports is questionable. However, the impact of credit support on the HCI drive and its subsequent effect on growth remains controversial (See, for example, Amsden 1989; Stern et al 1992; Leipziger and Petri 1992; and the World Bank 1987). Although the credit supports were influential in spurring the rapid development of HCIs, credits might have been more

effective had they been allocated more equitably between the HCIs and light industry—particularly given the labor endowment in the 1970s. But in the mid-1980s, HCIs did become the leading export industry in Korea. Many are also convinced that had Korea not built HCIs in the 1970s, the resource cost of building them would have been higher in later years.^{35/} This question cannot be answered with confidence in the absence of any counter experiment.

The effectiveness of credit policy as an industrial policy instrument

The impact of credit policies on economic growth is not limited to their impact on the cost of and access to credit. In an economy such as Korea's, in which the expansion of investment was financed by bank credit and foreign loans, the financial structure of firms was highly leveraged. By controlling finance, the government could become an effective risk partner of industrialists and could motivate their risk venture and entrepreneurship. It could induce the industrialists to take a long-term business perspective, while a competitive financial market might have prompted firms to take a shorter-term view (Cho and Hellmann 1993). In other words, by controlling financing, the government established a government-industry-bank co-insurance scheme to protect industrial firms from shocks. This indirect impact of government credit policy may have been an important determinant of the rapid industrialization of Korea.

Credit policy as an instrument of corporate governance

In Korea, state control over financing was the most powerful tool for inducing cooperation and compliance among businesses in promoting exports and industrialization. One of the distinct advantages of credit support over other policy measures, such as fiscal subsidies, is that it gives the government greater leverage for implementing industrial policy (Cho and Hellmann 1993). Control over finance confers some explicit governance rights to the government over the borrowers for the entire period of loans. Credit policies allow the government to allocate subsidies flexibly, according to the performance of supported firms or industries. In turn, such control extends to refinancing decisions—whether or not existing debt should be rolled over or new debt extended, and, if so, at what conditions. Well-measured

^{35/} For a reference, we may quote here the assessment of Duck-Woo Nam (1992), who was one of the major economic policymakers in the 1970s: "The HCI drive in the 1970s was criticized by many as a glaring example of overinvestment, misallocation of resources, and a repression of the banking system. As an economist, I appreciate this criticism but not without some reservation. Suppose President Park had not embarked on such a campaign in his days, would Korea have ever had a better chance of building heavy industry? Without detailed analysis, I refrain from giving a definite answer to this question, but many people around me say 'no,' pointing to the fact that since the time of construction there has been an enormous escalation of resource costs in international markets as well as skyrocketing land prices and construction costs at home relative to the increase in product prices. Moreover, they say, international conditions following the two rounds of oil crisis as well as the domestic political conditions following the 'Fourth Republic' ended by the assassination of President Park in 1979 were anything but favorable for undertaking such grand projects."

refinancing decisions provide incentives: good performance can be rewarded with continued or expanded support; or an inappropriate use of funds is punished with a reduction in or even termination of support, a threat that may make the survival of firms untenable. This carrot and stick policy underlying credit programs makes them an effective tool of government industrial policy—more effective than fiscal incentives, which stem from legislative initiation and are subject to the rigidity of the implementation process.^{36/}

But credit policies carry their own risk—the "risk of government failure." In Korea, the government's continuous communication with business leaders and close monitoring of firms through various channels (such as monthly export promotion meetings) helped reduce its risk of failure. Moreover, by controlling the banks, the government created incentives for firms to maximize their assets and growth, rather than to strive for immediate profitability. As far as they satisfied the government by expanding exports and successfully completing plants, firms ensured their continual credit support and survival. As such, the government mitigated its risk of failure by adopting a sounder, more stable investment environment.

Credit control as an instrument of risk management

Industrial investment in Korea was financed largely by debt, especially during the period of rapid economic growth. Fiscal incentives and low interest rates allowed some firms to accumulate retained earnings, but, in the absence of well-functioning domestic equity market, huge investment requirements for rapid industrial expansion had to be financed largely with bank loans and foreign debt. During 1963-71, the debt ratio of the Korean manufacturing sector increased by more than four times, from 92 percent to 394 percent (Box 2, Table C). Even in the 1990s, Korean firms remain highly leveraged, although their debt ratio in the second half of 1980s declined somewhat with the expansion of the stock market. Consequently, Korean firms became more vulnerable to internal and external shocks.^{37/} In fact, Korea could have undergone several financial crises had the government not actively become involved in risk management through credit intervention. The government undertook major corporate bail-out exercises in 1969-70, 1972, 1979-81, and 1984-88 to ride out recessions and avoid major

^{36/} *However, the benefits of the flexibility of credit policies cannot be taken for granted. Especially poor information on behalf of creditors may turn their potential effectiveness into a large hazard, since renegotiations and refinancing decisions involve delicate trade-offs. In order to use credit effectively as a selection and incentive device, creditors should be able to understand two crucial aspects of a firm's performance. First, in order to provide an effective incentive scheme, the creditor should be able to distinguish external factors from managerial performance. Second, in order to make effective selection decisions among external factors, creditors should be able to distinguish cyclical from structural influences; in particular, they should have good information on whether financial distress is due to temporary or permanent problems.*

^{37/} *This is to some extent the result of the government-led industrial financing strategy (as discussed in Section 7).*

financial crises. In a credit-based economy, the government made these bailouts by intervening in credit markets. The government's involvement in restructuring firms and industries, and in redistributing losses made risk-sharing among the members of the economy possible. Depositors usually took the lion's share of this cost, but they were rewarded subsequently with steady economic growth, increased job opportunities and as wage earners.

The most dramatic example of this kind of exercise was the August 1972 Emergency Measures (Box 2).

In a country such as Korea, in which the accumulation of capital was poor, rapid industrialization had to be financed with domestic and foreign credit. However, in a credit-based economy, creditors and borrowers should share some risk; otherwise, financial crises recur with economic downturns. In Korea, the government was directly involved in risk sharing by intervening in credit markets,^{38/} as such, bank credit constitutes the primary source of risk capital through government involvement. The August 1972 measures firmly set the precedent that the government would take measures to relieve financial distress when necessary. Even with high leverage ratios, large industrial groups could undertake risky ventures and attach a long-term perspective to their investment decisions.

^{38/} *In Japan, the "main bank" system helped establish risk sharing between creditors and borrowers.*

Box 2. Government intervention and risk sharing: August 1972 emergency measure

Interest rate reform in 1965 increased domestic credit and the debt ratio of firms. In the late 1960s, foreign borrowing increased it further. However, high interest rates during the second half of the 1960s squeezed corporate profitability and retained earnings. Firms borrowed more from banks to pay high interest bills and to expand their exports. High economic growth after the first five-year economic plan period (1962-66) made Korean industrialists optimistic about the future of the economy. Their optimism fueled the investment boom of the second half of the 1960s, which was supported by the rapid growth of domestic credit and increase in foreign borrowing (sections 4 and 5).

As the Korean economy showed signs of over expansion—with a swelling current account deficit—the IMF stepped in to exert control. The IMF recommended that the won be devalued, that export subsidies and import restrictions be abandoned, that monetary control be tightened, and that a temporary ceiling be imposed on foreign borrowings (an orthodox IMF program). The Korean government did not accept these recommendations, thwarting the second five-year economic plan and jeopardizing rapid growth. But the pressure was intense; the United States made the consideration of additional PL480 and developmental loan funding conditional on the acceptance of the IMF program. The Korean government then agreed to the IMF program in 1970, with the exception of the demand to end export subsidies—the incentive that the government viewed as the pillar of its export-led growth strategy. Consequently, monetary expansion dropped from 52 percent in 1968 and 45 percent in 1969 to 11.3 percent and 24.9 percent in 1970 and 1971. Domestic credit expansion dropped from 66.3 percent and 59.8 percent in 1968 and 1969 to 32 percent and 28 percent in 1970 and 1971 (Table B). Economic growth also fell from 13.8 percent in 1969 to 7.6 percent in 1970. This drop was followed by a currency devaluation of 18 percent in 1971 and another 7 percent in the following year.

Table B. Key economic indicators between 1964 and 1978
(Percent)

	Investment (a)	Export (a)	Domestic credit (a)	Nominal interest rates on general loan	Rates of return to fixed asset (b)	Curb market interest rate(c)	GNP deflator (a)
1964	13.3	37.2	7.8	16.5	32	61.80	30.0
1965	19.3	47.0	34.8	18.5	34	58.92	5.8
1966	84.0	42.9	25.7	26.0	40	58.68	14.6
1967	25.2	27.9	64.3	26.0	37	56.52	15.9
1968	52.3	42.2	66.3	25.8	28	56.04	16.1
1969	45.1	36.7	59.8	24.5	28	51.36	15.5
1970	11.3	34.2	32.3	24.0	25	50.16	15.5
1971	24.9	27.8	28.2	23.0	23	46.44	12.5
1972	3.7	52.1	26.9	17.7	27	39.00	16.7
1973	40.7	98.6	31.7	15.5	34	33.24	13.6
1974	30.2	38.3	54.2	15.5	30	40.56	30.5
1975	24.9	13.9	32.2	15.5	29	47.88	25.2
1976	77.1	51.8	21.7	16.1	33	40.47	21.3
1977	43.1	30.2	23.6	15.0	-	38.07	16.6
1978	45.1	26.5	45.9	17.1	-	41.70	22.8

- (a) Annual growth rate.
- (b) Manufacturing sector.
- (c) Prime enterprises.

Source: Bank of Korea, "Economic Statistics Yearbook," various issues; Hong (1979); and, Cole and Park (1983).

Continuing high domestic interest rates, devaluation, and tight credit control hit domestic firms hard, especially those that borrowed from abroad. The world economic recession made things worse. The net profit ratio of the manufacturing sector as a whole fell sharply (Table C). Non-performing loans in the banks started to pile up. Under tight credit control, domestic banks could not help firms finance the increased foreign loan payments. Business turned to the last available resort: the curb market, with its hefty interest rate and short-term maturity. When business could not pay back the curb, it capsized. The government assumed managerial control over thirty firms in 1969, all of which were recipients of foreign loans. By 1971, the number of bankrupt enterprises that had received foreign loans climbed to 200; Korea faced the first debt crisis.

Table C. Financial indicators in the manufacturing industry
(Percent)

	Debt/equity ratio (a)	Interest expenses/ net sales ratio	Net profit/ net sales ratio
1963	92.2	3.0	9.1
1964	100.5	4.9	8.6
1965	92.7	3.9	7.9
1966	117.7	5.7	7.7
1967	151.2	5.2	6.7
1968	201.3	5.9	6.0
1969	270.0	7.8	4.3
1970	328.4	9.2	3.3
1971	394.2	9.9	1.2
1972	313.4	7.1	3.9
1973	272.7	4.6	7.5
1974	316.0	4.5	4.8
1975	339.5	4.9	3.4
1976	364.6	4.9	3.9
1977	350.7	4.9	3.5
1978	366.8	4.9	4.0

(a) Total liabilities/net worth.

Source: Bank of Korea, "Financial Statements Analysis," 1981; quoted from W.S. Kim (1991).

Business was in an uproar. The Korean Federation of Industrialists urged immediate remedies—something short of declaring national bankruptcy to the international financial community to bail out firms. The government originally considered mobilizing the special funds of ten billion won (about 3.3 percent of the total money supply). Business responded that the amount was far short of what was required (C.Y. Kim 1990). After consultation with leading businessmen, the government concluded that some extraordinary measures were necessary to cushion the financial burden of the debt-ridden firms, and started to prepare the measure in complete secrecy (C.Y. Kim 1990).

The government issued its Economic Emergency Decree in August 1972 to bail out the debt-ridden corporate sector. It included an immediate moratorium on the payment of all corporate debt to the curb lenders and extensive rescheduling of bank loans at a reduced interest rate. The moratorium

was to last three years, after which all curb funds had to be turned into five-year loans at the maximum annual interest rate of 16.2 percent—this at a time when the prevailing market rate was more than 40 percent.^(a) The bank interest rate on loans up to one year was reduced from 19 percent to 15.5 percent. Approximately 30 percent of the short-term commercial bank loans to business were converted into long-term loans, to be repaid on an installment basis over a five-year period at an 8 percent annual interest rate, with a three-year grace period.^(b)

These measures had considerable repercussions throughout the economy, shifting the crushing burden of the corporate sector's foreign debt service payment (caused by the won devaluation to support the competitiveness of exports) to domestic curb lenders and bank depositors. The interest burden on business firms was lightened significantly. The ratio of interest expenses to sales volume for manufacturing firms dropped sharply from 9.9 percent in 1971 to 7.1 percent in 1972, and then to 4.6 percent in 1973 (Table C). As the financial situation of the corporate sector improved, so did the non-performing loan problem of the banks. The share of non-performing loans in commercial banks fell from 2.5 percent in 1971 to 0.92 percent in 1973, and to 0.6 percent in 1974 (Box 2, Table D). The economy recovered quickly. Total investment grew by 40 percent, and export growth was almost 100 percent in 1973. The real growth of the economy in the first quarter of 1973 increased to 19.3 percent from 6.4 percent for the same period of 1972 (C.Y. Kim 1990).

Table D. Share of NPLs and profitability among commercial banks
(Percent)

	1971	1972	1973	1974
Share of NPLs ^(a)	2.46	2.24	0.92	0.63
Net income of total assets	0.28	0.21	0.30	0.78

(a) Non-performing loans/total credits. Non-performing loans are defined as those against which actions of collection or other measures are necessary, regardless of whether they are secured with collateral (classified as fixed), or are unsecured (classified as questionable) or are judged to be uncollectible (estimated loss).

Source: Bank of Korea, quoted from P.J. Kim (1990).

However, this drastic measure aggravated the moral hazard issue for corporate firms and banks. The government's risk partnership with highly leveraged firms that motivated the 1972 measure encouraged firms to depend on the government for support, without paying sufficient attention to their project selection. The efficiency of the banking system was also hampered, because once rescued by the government, it had little incentive for serious credit evaluation and monitoring.

^(b) The curb market had long been part of the dualistic financial system in Korea, and had proved flexible, pervasive, and resilient under the repressed system. While outside the rule of law, it was tolerated, if not implicitly encouraged, by the government, because the curb was the only source from which households and some business could obtain loans. During phases of tight monetary policy—for instance, during 1969–72—the curb market also became a major source of funds to large firms. When, after the moratorium, all curb debtors and creditors were ordered to register with the government, the amount totalled 42 percent of total bank loans (including loans from the KDB).

^(a) This conversion was ultimately backed by the central bank, which accepted the special debentures issued by the commercial banks.

7. THE COST AND LEGACY OF CREDIT POLICIES

Control over financing strengthened the government's hand for implementing industrial policy and promoting rapid industrialization. But this strategy was not implemented without cost.

Above all, financial control (a policy of repression) created an inefficient banking system, a financially vulnerable corporate sector, and high economic concentration. The government controlled the financial system to herd business into targeted industries. The economies of scale deemed critical to surviving international competition led to a growing concentration of business centering around Chaebols. Big firms, which depended on cheap bank financing for too long, emerged with highly leveraged financial structures, making themselves vulnerable to external shocks. Yet the government could not afford the bankruptcy of big business.^{39/}

The moral hazard for commercial banks was no less serious. As long as the government was willing to rescue firms, they were not forced to screen projects and monitor firms rigorously. But, as such, the government was forced in turn to perpetuate financial repression. When the Korean economy expanded and became increasingly sophisticated, a more innovative and market-oriented financial sector was called for, but the past legacy became a constraint against liberalization.

An inefficient banking system and the expansion of NBFIs

Korea relied on credit interventions too heavily and for too long as an industrial policy instrument. The banking system bore the brunt of this strategy. The government used the banking system as a treasury unit to finance development projects and to manage risk sharing in the economy. Bankers were treated as civil servants. Their performance was evaluated according to whether they complied with government guidance, rather than whether they managed their assets and liabilities efficiently. Commercial banks in Korea were involved so heavily in directed credit programs that they almost functioned as development banks. In the process, they incurred large nonperforming loans (NPLs) (Table 19), which again had to be covered with government support. Consequently, banks lagged behind the development of the real sector and could not effectively meet its demand for financial services; the banks thus lost market share to other financial institutions, such as NBFIs, which could operate more freely and thus proliferated (Box 3).

^{39/} In fact, Chaebols rarely went bankrupt, except when the government allowed one or two do so in order to set an example. The more they borrowed from banks, the safer they were.

Table 19. Share of NPLs and bank profitability: Seven national commercial banks

	1971-75	1976-80	1981-83	1984-86	1987	1988	1989
Net profit/total assets (%)	0.44	0.80	0.34	0.20	0.19	0.36	0.66
Share of NPLs (%) ^(a)	1.3	2.4	7.6	10.5	8.4	7.4	5.9

Note: Nonperforming loans are those against which actions of collection or other measures are necessary, regardless of whether they are secured by collateral (classified as fixed) or not (questionable), or are judged to be uncollectible (estimated loss).

(a) The figures are the ratio of NPLs to total credit outstanding, including acceptances and guarantees. For 1971-75, the share represents the ratio of narrowly defined NPLs (classified as questionable and estimated loss) to total loans.

Source: Bank of Korea, quoted from P.J. Kim (1990).

In most economies, banks are the main financial intermediaries. In Japan and Taiwan (China), Korea's two closest neighbors (and whose financial market structures have traditionally shared many similarities to Korea's), banks dominate the credit market (Table 20). NBFIs play only a small role. The dominance of NBFIs in Korea is the result of deliberate government policy that treated them more favorably than the banks, given the dilemma of financial policies in the 1980s. It was not the result of a genuine competitive edge that NBFIs gained themselves over banks.

But to some extent, the expansion of NBFIs contributed to industrial growth by keeping competitive forces alive in an otherwise repressed financial system, and by actively mobilizing savings to meet industrial investment requirements. But their expansion also created problems. Because they are relatively small institutions and provide mostly short-term financing, their growth shortened the average maturities of loans, and the thwarted banks from assuming a "corporate governance" role—which many recognize is the strength of relationship banking, such as the Japanese "main banking system."

Table 20. Relative importance of banking sector: Korea, Taiwan (China), and Japan
(Ratio to normal GNP)

Year	Broadly-defined money (M2)			Domestic financial assets		
	Korea	Taiwan	Japan ⁽¹⁾	Korea	Taiwan	Japan
1970	.32	.41	.72	2.1	2.1	3.7
1975	.31	.57	.82	2.2	2.8	4.4
1980	.34	.64	.85	2.4	3.4	4.9
1985	.37	1.05	.98	3.3	3.9	6.0
1989	.42	1.43	1.20	4.4	6.1	7.6

Note: (1) M2 + CD.

Source: Nam Sang-Woo (1992).

Box 3. The evolution of NBFIs

After the August 1972 Emergency Measures, the government encouraged the development of NBFIs—including short-term investment companies, mutual savings, and credit unions—in an effort to bring curb funds to the formal financial sector. The government allowed these institutions to offer higher interest rates and to operate with greater freedom. They were not required to make policy loans. With their competitive edge over banks, they grew rapidly and expanded their market share.

In the early 1980s, when the government began to liberalize the financial sector, it relaxed NBFi entry barriers and expanded their business boundaries as the next best strategy for including banks in a more comprehensive liberalization of the financial system. The government continued to control bank credit for industrial policy purposes. Despite formal government guidance on the interest rates they offered, NBFIs were allowed to make deposit and loan transactions at market rates.

NBFIs grew rapidly in the 1980s, driven by stable inflation and high real interest rates, and their share of deposits has become larger than that of the banks (earlier Table 1 in section 1). With the growth of both NBFIs and securities markets in the 1980s, the Korean financial system operated in a competitive environment, despite the government's continued repression of the banking system.

Source: Cho, Y.J., "The Effect of Financial Liberalization on the Efficiency of Credit Allocation—Some Evidence from Korea," Journal of Development Economics, September 1988.

Economic concentration

When the HCI drive was completed, Chaebols had captured a large share of economic power.⁴⁰¹ By 1981, the top five Chaebols were responsible for 23 percent of total manufacturing sales; the top 30 Chaebols were responsible for 41 percent of total manufacturing sales (K.U.Lee, 1986). Daewoo, one of top five Chaebols, started as a small trading company in 1967, with less than ten employees. By 1978, the Daewoo group had 33 companies under its umbrella, covering trade, textiles, hotel, construction, machinery, automobile, shipbuilding, and electronics. It is difficult to imagine that Chaebols such as Daewoo could grow so fast without government credit support. During 1974-78 (the period of the HCI drive), it was not uncommon for the Chaebols to triple their affiliates with new acquisitions in heavy and chemical sectors (Table 21).

⁴⁰¹ A large body of literature is available on economic concentration and income distribution in Korea. Leipziger, Dollar, Shorruks, and Song (1992) provide a recent discussion.

Table 21. The expansion of Chaebols during the HCI drive

Chaebols	Number of affiliates		Acquisitions in HCI
	1974	1978	
Hyundai	9	31	Automobile, machinery, iron and steel, shipbuilding, aluminum, oil refining, heavy electrical, heavy machinery
Samsung	24	33	Shipbuilding, general machinery, electric switching systems, petrochemicals
Daewoo	10	35	Machinery, automobile, shipbuilding
Lucky	17	43	Petrochemicals, oil refining, electronics
Hyosong	8	24	Heavy electrical, machinery, auto parts, petrochemicals
Kukje	7	22	Iron and steel, machinery
Sunkyung	8	23	Chemical, machinery
Samhwa	10	30	Electrical, machinery
Ssangyong	17	20	Cement, heavy machinery, shipbuilding, heavy electrical
Kumho	15	22	Iron and steel, petrochemicals
Kolon	6	22	Heavy electrical, petrochemicals

Source: E.M. Kim (1987).

Taking advantage of their access to credit, large firms could make leveraged buy-outs, and small competitors often went along, to bring in much-needed capital. They could also use their easy access to engage in predatory pricing in an effort to keep small firms away from the market. In the face of growing public discontent, the government was forced to redirect policies toward emphasizing the redistribution of income, which often necessitated placing more regulations on the business activities of large firms.

8. THE EFFECTIVENESS OF KOREAN CREDIT POLICIES: A COMPARATIVE PERSPECTIVE

Government intervention in the credit market is not unique to Korea. Almost all developing countries have used credit policies to varying degrees to support targeted sectors or industries. But the experience in most developing countries has not been encouraging. Extensive directed credit programs make financial institutions inefficient, loading them with NPLs and poorly mobilized savings, without much success for promoting the growth of targeted sectors. What made credit policies effective in Korea?

Clear goals and structured support

In Korea, the government targeted its credit support programs primarily at promoting exports and industrialization. Many other developing countries had an extensive credit support system, but their programs lacked a clear focus and had competing objectives and effects. Moreover, the goals of Korean credit policies were clearly consistent with economic development plan over the long-term. Various policy measures, including credit supports, tax incentives, and foreign loan allocations, were structured to support sustained industrial growth, not quick-term profitability.

The government also adopted other policy measures to provide a more secure economic environment to support growth. In general, exchange rate policies provided competitive and stable real exchange rates. Wage policies ensured that real wage growth was in line with productivity growth. Korea was not successful at achieving price stability, but it did avoid hyperinflation with a reasonably balanced budget and income policies—this, despite directed credit programs that relied heavily on central bank financing, helped to avoid hyperinflation.

Competitive internal market and export orientation

The government's developmental strategy centered on building strong market competition among private firms. While strictly controlling financing, the government imposed few regulations on industrial activities—a separation of intervention not often found in other developing countries. Although certain industries were highly protected and some product markets highly concentrated, few monopolies emerged, and strong competition prevailed among large firms; even with an oligopolistic market structure, the market was contestable.

The export-led growth strategy helped sustain the effectiveness of credit policies. In particular, it provided effective performance tests for firms. Korea imposed discipline on domestic firms by linking credit support to their success in foreign markets, thus pushing them

toward international competitiveness. This tactic reduced the risks associated with an "interventionist approach"—that is, stifled industrial activity—and brought tremendous externalities and learning effects that accelerated growth.

Effective management of credit policies and government-business risk partnership

More than anything else, the economic success of Korea was due to the government's effective "economic management." The early 1960s marked the turning point of Korean economic development. Although Korea's financial policies in the 1950s—its interest rate and credit controls—were just as repressive as they were ultimately in the 1960s and 1970s—strategies for managing credit policies (and economic policies in general in the 1960s) evolved differently under Park's government. He had a clear vision of economic development and effectively governed the economy toward that goal. In close consultation with the private sector, the government provided clear structure for credit policies and specific programs and adjusted them frequently in response to externalities and imperatives. The government did not merely establish credit programs; it provided close monitoring and consultation to ensure that credit support was adjusted as necessary in order to enable targeted firms and projects to operate successfully. For instance, as with the export credit programs, the government responded to changing international market opportunities by revising and expanding the programs to meet the exporters' needs. This flexibility enabled exporters to explore new export opportunities, and to diversify their export products. The government, and often the President himself, closely monitored the progress of all major investment projects, whether public or private, and sought actively to help firms overcome any constraints.

Various "institutions" served as conduits for close consultation, monitoring, and consensus building. Industry associations provided the government with the updated information on the foreign market trends and barriers that faced domestic producers. They also helped impart government policies to industries and secure their cooperation. Senior ministry officials, bankers, and leading businessmen attended monthly meetings to assess export promotion activities and analyze economic trends; a common understanding of the economic situation and prompt policy responses (including credit support) emerged successfully from these meetings.

Administrative stability and political autonomy

In Korea, administrative stability was sometimes maintained at the expense of political freedom. The political system also fostered independent economic policy-making, including credit policy, that was independent from political demands. An authoritarian government itself may not have been a necessary condition for this policy independence. But the strict political environment and administrative stability helped maintain consistent credit policy goals and facilitated monitoring industrial performance against long-term goals. The

political environment also fostered a reasonably autonomous relationship between credit policy and politics.

Favorable international environment

The economic success of Korea also owes to good luck. Korea had good access to foreign loans, and financed a substantial part of its investment with foreign capital. When U.S. aid declined in the early 1960s, the rapprochement with Japan and the Vietnam War supplemented the foreign exchange necessary to promote industrialization.^{41/} Rapprochement with Japan in 1965 brought a large influx of capital and technology, at a time when the international commercial loan market was functioning poorly. The Vietnam War provided not only foreign exchange from Korean troops and civil workers, but also a market for construction and transportation services. This experience allowed Korean firms to explore the Middle East construction market after the first oilshock, allowing the Korean economy to weather the shock. And since the mid-1970s the recycling of oil funds has allowed Korea to pursue large, capital-intensive industrial projects, despite relatively low domestic savings and a heavily repressed financial system. Without such access to foreign loans, Korea might not have been able to continue its low interest rate policy and highly repressive financial policies, and, as such, might have experienced much lower economic growth and lower domestic investment.

^{41/} *Japan, Korea, Taiwan, Hong Kong, Singapore, and Thailand were the major beneficiaries of the war demand. But unlike Japan and Hong Kong, whose exports to Vietnam consisted of items they were exporting to other nations, Korea (and to lesser extent Taiwan) found a market for new industrial products (see Naya 1991; and Woo 1991).*

9. SUMMARY OF KOREAN CREDIT POLICY: CONCLUDING REMARKS

In Korea, the government owned the banking institutions, set their interest rates, and directed a substantial portion of their loans. This strategy—a policy of financial repression—is viewed by most economists as an ineffective way to achieve high economic growth. It is true that this policy stance in Korea also caused many problems. It sometimes meant that a large amount of credit was being allocated to unsuccessful ventures, forcing the government to bail out firms and banks with monetary expansion. It inhibited the development of an efficient banking system, and fostered economic concentration. But Koreans wanted industrialization, and they achieved it by allocating cheap credit to large industrialists, inducing them to build industries and to increase their exports, and threatening to withdraw credit if they did not perform. And, after all, depositors were rewarded as wage earners with the expansion of job opportunities and an increase in real wages. Rapid income increases contributed to the accumulation of domestic savings and the subsequent expansion of the financial market. What made this approach work in Korea, while similar policy initiatives led to unsuccessful developmental experiences elsewhere?

We do not have a full answer. What we have presented in this report suggests that the government can play a critical role in promoting economic development, and that credit policies can be used as an effective instrument for doing so. But we have not fully identified which aspects of credit policies contributed most to the growth of industries, nor what constitutes the optimal level of government intervention, nor whether alternative approaches could have worked better. All we have provided in this report is some qualitative analysis on these issues, backed by some quantitative evidence. Besides, the Korean economy is still in the process of development, and the cost of its policy strategy may not yet be realized fully. Nevertheless, we provide some tentative conclusions here.

In Korea, what contributed most to the effectiveness of credit policies seems to be *good economic management* and *competitive business environment*. As discussed in the previous section, other factors were also determinants of success, but they are linked to these two factors. For example, Korea faced a favorable international environment; but how fully it could seize upon these opportunities depended on the type of management exercised at both the government and the firm level. Clearly focused industrial goals and a macroeconomic environment that was conducive to the effective operation of credit policies also owed to good economic management. In Korea, close consultation between the government and business and the government risk partnership with business made what could have been a very distortive interventionist approach quite an effective developmental strategy.

According to our observations, it was not specific directed credit programs as such that helped overcome market imperfections and spur industrial growth in Korea. More broadly,

it was government surveillance over the banking system and how it was used as an industrial policy instrument to effect corporate governance that contributed to rapid industrialization and growth. By controlling financing, the government became an effective risk partner of business firms and their monitor. The directed credit programs were adjusted continuously in the process of close government-business consultation. The government did not simply provide these programs; it ensured that the programs worked to help exporters and industrial producers. When it was deemed that additional policy measures were necessary to help them succeed, the government took such measures—correcting exchange rates, building the infrastructure, extending tax exemptions, and sometimes taking extraordinary measures, such as the August 1972 Emergency Decree. In this way, the government responded with vigor to market imperfections.

The Korean financial and developmental experience suggests that government can play an important role in laying the ground work for rapid industrialization in the early stages of economic development. If government intervention in credit allocation is predicated on close consultation with industry, and if it is implemented within a competitive business environment, it can be reasonably successful at overcoming financial market imperfections, thereby contributing to rapid industrialization. When the risk capital market was poorly developed, the Korean government effected a close relationship between banks and industry by exerting control over bank management, thereby becoming an effective risk partner of industry. This implicit co-insurance scheme among government, industries, and banks allowed the credit-based economy and its highly leveraged corporate firms to explore risky investment opportunities and to operate without major financial crisis.

But the Korean experience also suggests that the cost of this approach can be substantial, and can be exacerbated as economic development advances. The Korean policy strategy fueled rapid industrialization, but it also dampened efforts to develop an efficient banking system. The government's risk partnership with industrial firms placed a heavy burden on the banking system, loading it with large NPLs, and raised social equity issues. Extensive government intervention in financing, especially low interest rate ceilings, slowed the growth of financial savings. Korea was able to overcome this negative impact of government intervention by relying heavily on foreign borrowing. Korea's special relationship with the United States and Japan gave the country access to foreign borrowing. Furthermore, the perpetuation of strong government intervention in credit allocation when the industrial sector was well established and when economic organizations had become sophisticated placed Korea at greater risk of distorting the allocation of financial resources. The co-insurance scheme among the government, industries, and banks fostered a moral hazard for banks and firms, despite contributing to the development of entrepreneurialship and the expansion of industrial investment. Consequently, the government became captive to a vicious cycle of interventions. It also became captive to its own bureaucratic interests.

The overall lesson from the Korean experience is that governments can intervene productively and effectively in the early stages of economic development. The balance between the role of government and market forces should reflect the financial market, industrial organization, market structure, and political and international environment that face a country. But as economic development advances, the role and scope of government intervention must be reappraised with a view toward fostering greater reliance on market forces.

ANNEX I. The contribution of foreign capital to growth

We estimate the role of foreign capital in Korea's economic growth by using an incremental capital-output ratio (ICOR) that measures the additional capital required to generate an additional unit of output. We show that the growth of GNP is equal to the reciprocal of ICOR multiplied by the increase in the capital stock—that is, investment. Since total investment is financed with a combination of domestic and foreign savings, the reciprocal of ICOR multiplied by the domestic saving ratio yields the economic growth without external debt. The major shortcoming of this approach is that it assumes that ICOR is constant regardless of the size of the investment, and that all foreign capital is used exclusively for capital formation. For this reason, the estimation results should be interpreted carefully.

Table I.1 shows the effect of foreign capital on the economic growth during 1962-82. It shows that, if investment had been financed solely with domestic savings, GNP would have grown only by 4.9% during the period, compared with an actual growth rate of 8.2%. It indicates that approximately 40% of the growth would be attributable to external borrowing. Therefore, foreign-financed investment has played an important part in Korea's rapid growth. The importance of borrowing diminished during 1977-82, but still accounted for 27% of growth.

Table I.1: Growth effect of foreign capital
(Percent)

	1962-66	1967-71	1972-76	1977-82	Average over entire 1962-82 period
GNP growth rate (A)	7.9	9.7	10.2	5.6	8.2
ICOR ^(a)	2.3	3.1	3.4	5.0	3.4
GNP growth rate without foreign savings (B)	3.8	4.9	6.9	4.1	4.9
Growth effect by foreign capital (A) - (B)	4.1	4.8	3.3	1.5	3.3

Note: GNP is calculated at 1975 constant prices.

(a) Total capital includes domestic gross fixed formation, increases in inventories, and statistical discrepancy.

Source: Economic Planning Board, "White Book on External Debts," 1988.

ANNEX II. Credit programs for small and medium firms in Korea

Directed credit programs to support small- and medium-size companies (SMCs) were available even in the 1960s and 1970s. However, the share of SMC loans of total policy loans was not very significant in these periods, as the basic thrust of industrial policy was structured to promote HCs, which required large-scale investment from large firms.

Starting in the 1980s, however, SMCs were placed higher on the list of credit policy priorities to induce balanced growth. Since the mid-1980s, the progress of democratization has forced the government to intensify its support for SMCs further in an effort to achieve distributional balance and social equity.

Several major policy tools were used to support SMCs in Korea. First, the Industrial Bank of Korea, owned by the government, was established in 1961. It specialized in SMC lending by using funds mobilized from government borrowing, deposits, and debentures. Second, commercial banks were also required to meet a minimum portfolio requirement for SMC loans set by the government. This system was introduced in the form of moral suasion in 1965 and was legalized in 1976. In the early 1980s, this system was intensified further, so as to induce greater financial support for SMCs. The required ratio of local banks to finance SMCs was raised in 1980 and 1986, and the foreign bank branches and the nonbank financial institutions (NBFIs), such as short-term investment and finance companies, merchant banking corporations, lease companies, and life-insurance companies, were also subject to this system.

Table II.1: Deposit money banks' required ratio of financing SMCs
(Percent)

	1965 ^(a)	1976 ^(b)	1980 ^(c)	1985	1986	1992
Nationwide commercial bank	30	30	35	35	35	45
Local bank	30	40	55	55	80	80
Foreign bank branches	-	-	-	25	25	25

(a) Ratio in terms of total loans outstanding.

(b) Ratio in terms of increase in total loans.

(c) Ratio in terms of increase in total loans in won.

Source: Bank of Korea.

The Bank of Korea (BOK) played a key role in supporting the directed credit policy for SMCs. BOK set amounts of subsidized discount loans to banks, differentiated by whether or not they had met the required ratio for financing SMCs. In addition, BOK established rediscount ceilings on export bills and commercial bills associated with SMCs. Since 1983, it has also allowed SMCs to receive discount loans for R&D activities, environmental protection investment, and bills associated with financing the purchase of SMC products.

Finally, in 1976, the Credit Guarantee Fund was established with capital funds contributed by the government and financial institutions. This Fund extended credit guarantee services primarily to SMCs because they lacked adequate collateral to obtain loans from financial institutions.

These programs helped increase the share of bank loans to SMCs of total bank loans from 33.1 percent in 1983 to 56.8 percent in 1991.

Table II.2: Share of loans to SMCs of total loans by deposit money banks
(Percent)

	1983	1985	1988	1989	1990	1991
Loans to SMCs/total loans in won	33.1	31.5	48.1	50.1	55.5	56.8

Source: Bank of Korea.

ANNEX III. Operation and impact of the national investment fund

The National Investment Fund (NIF) was established after the enactment of the NIF Act in December 1973 to supply funds to construct and promote HCI. NIF was mobilized with funds from financial savings and the government, and not from the central bank's money creation or foreign loans. Specifically, NIF was not intended to force new public savings but to reallocate the existing financial resources into investment in strategic projects. Given the uncertainty of HCI projects and their long gestation period for investment, HCI would not have been financed through financial markets, which meant that in the initial stage of HCI the government had to intervene in the allocation.

NIF was operated with an annual fund-raising and loan program. The annual program stipulated the scope and subject, and was prepared by the Minister of Finance, who received an outline of how funds were being used from the government administrators who controlled major industries and banking institutions. The program was then examined by the NIF Management Council, reviewed by the State Council, and finally approved by the President. Although some principal NIF operational policies were prepared by the Minister of Finance, most of its business—such as the receipt of deposits, loans to banking institutions, accounting, and the settlement of accounts, were delegated to the governor of BOK.

The NIF Management Council, headed by the Prime Minister, consists of the ministers of the Economic Planning Board, Finance, Agriculture and Fishery, Commerce and Industry, Health and Society, Communications, and General Affairs, the governors of BOK and the Korea Development Bank (KDB), and private sector specialists. The Council examines and sets up the operational criteria for NIF, the annual fund-raising and loan program, and the statement of accounts.

Funding sources for NIF

NIF funding sources included funds contributed by banks and insurance companies, and such public funds as the Civil Servants' Pension Fund and the Veteran's Pension Fund. NIF mobilized the necessary funds from these sources by receiving deposits or issuing national investment bonds.

In the early stages of NIF, banking institutions and insurance companies contributed to NIF by providing 10 to 30 percent of the net increase in their savings deposits (savings deposits: 20 percent; deposits for property formation: 30 percent; and unspecified money in trust: 10 percent) and 40 to 50 percent of the insurance premiums (that is, the remaining amount after insurance money paid out and business expenses are deducted from the gross premium amount and other income). The public funds provided about 90 percent of their reserve, except for the amount set aside for normal payment. However, as the repayment of NIF loans increased after the end of the 1970s, the contributions of these funding sources to NIF gradually declined. As shown in table III.1, total NIF mobilization (the repayment of the Fund's loans and surplus funds carried over from the previous year excluded) was only 69.8 billion won at the end of 1974, but

increased rapidly to 2.4 trillion won at the end of 1982. Since then, its increase has slowed down as government industrial policy has shifted away from the HCI drive.

NIF depended heavily on funding from banking institutions. During 1974-81, funds mobilized through banking institutions accounted for 57 to 66 percent of total NIF mobilization. Since 1982, with a reduction in funds from public sources, the relative contribution of banking institutions has increased further, reaching to 89.3 percent of total mobilized funds at the end of 1988.

When NIF was introduced, the government planned to expand its contribution to NIF gradually, but this plan has not been realized. During 1974-81, funding mobilized from government funds accounted for 15 to 20 percent of total NIF mobilization. However, since 1982, several public funds have been excluded from the Fund by the amendments of several public fund acts, consequently, the ratio of the contribution of public funds to total NIF mobilization has fallen sharply. At the end of 1988, the contribution of public funds accounted only for 4.3 percent of NIF. The contribution of funds from various government budget accounts, which was prescribed in the NIF Act, never materialized.

Table III.1. Mobilization of NIF by source
(Billion won; percent)

Year	Public fund	DMB	Insurance companies	Total	Growth rate	Net mobilization
1974	11.5 (16.5)	41.0 (58.7)	17.3 (24.8)	69.8 (100)	-	70.8
1975	28.3 (16.3)	99.8 (47.4)	45.8 (26.3)	173.9 (100)	149.1	107.0
1976	53.6 (15.6)	208.8 (60.6)	82.1 (23.8)	344.5 (100)	98.1	189.0
1977	99.0 (18.9)	317.2 (60.6)	107.0 (20.5)	523.2 (100)	51.9)	211.8
1978	153.6 (18.5)	528.8 (63.8)	145.8 (17.6)	828.3 (100)	58.3	448.7
1979	218.0 (18.1)	802.0 (66.5)	185.1 (15.4)	1,205.2 (100)	45.5	540.5
1980	309.4 (21.1)	922.5 (63.0)	233.1 (15.9)	1,465.0 (100)	21.6	406.8
1981	385.0 (20.7)	1,226.0 (65.8)	251.4 (13.5)	1,862.4 (100)	27.1	673.4
1982	422.4 (17.4)	1,739.7 (71.7)	263.4 (10.9)	2,425.5 (100)	30.2	979.3
1983	462.5 (16.7)	1,925.5 (69.5)	382.5 (13.8)	2,770.5 (100)	14.2	723.8
1984	273.0 (9.4)	2,159.5 (74.4)	469.2 (16.2)	2,901.7 (100)	4.7	640.5
1985	185.2 (6.4)	2,261.0 (77.8)	459.2 (15.8)	2,905.4 (100)	0.1	474.1
1986	116.4 (4.2)	2,321.3 (83.2)	352.0 (12.6)	2,789.7 (100)	-4.0	550.9
1987	103.5 (3.9)	2,268.8 (86.4)	254.0 (9.7)	2,626.3 (100)	-5.9	584.0
1988	109.6 (4.3)	2,297.3 (89.3)	165.8 (6.4)	2,572.7 (100)	-2.0	547.3

Note: Funds are those outstanding at the end of each year.

Source: Bank of Korea, "Overview of the National Investment Fund," 1989.

Users of NIF

NIF extended equipment and working capital loans to HCI, such as steel, nonferrous metals, shipbuilding, machinery, petrochemicals, and electronics industries, as specified in the Fund Law. In order to facilitate the construction of HCI-related industrial complexes and infrastructures, NIF also provided loans for purchasing land. In addition, NIF provided loans to promote the electric power industry (power generation, transmission, and distribution) and the purchase of domestically produced machinery, and granted deferred payment to exporters.

When the government introduced NIF it wanted to use NIF to promote HCI-related economic activities solely. However, as grain shortages grew worse in the 1970s, congressional review of NIF legislation led to the addition of a project to expand food production as part of the list of NIF financing priorities, so as to attain food self-sufficiency.

Considering the long gestation period for investment and the uncertain profitability of HCIs, the loan period of NIF was set at a maximum of 8 to 10 years, including a 2 to 3-year grace period. The loan period was determined by the construction period for facilities, the turnover period for total assets, the rate of return on investment, and the credit status of borrowers. More specifically, the repayment period was determined within a range of the reciprocal average of the investment-earnings ratio of each project, with an eye toward directing long-term loans to projects whose expected return on investment was relatively low.

Until 1982, the NIF interest rate had been set at 4 to 6.5 percent lower than the general rate of banks, a policy that sought to alleviate borrowers' financial cost (Table III.2). Since then, the gap between the NIF rate and the general loan rate has fallen to 0.0 to 0.5 percent.

Table III.2. NIF interest rates, by selected years
(Percent)

	1974	1977	1978	1980	1982	1988
NIF (A) ^(a)	9.0	14.0	16.0	22.0	10.0	10.0 - 11.5
Bank's general loan (B) ^(b)	15.5	18.5	21.0	26.0	10.0	10.0 - 12.0
(A) - (B)	6.5	4.5	5.0	4.0	0.0	0.0 - 0.5

(a) Loan rate for more than three years for HCI.

(b) General loan rate for more than three years.

Source: Bank of Korea, "Overview of the National Investment Fund," 1989.

Government directives and guidance also applied to NIF loans. Lending banks were to confirm whether the applying enterprise corresponded to the categories to be financed and whether the required amount was within the fund limit set by the NIF annual plan. Loan officers of banks were to examine such items as the loan terms for individual categories as specified in the annual plan (loan rate, amount, and period), and the borrower's project plan and financing

program, financial condition, and repayment capability. In order to monitor loans, lending banks could require borrowers to report on the progress of the project and its financial situation, and provide financial statements at any time. If firms diverted the loans to other purposes not specified in the NIF program, a penalty could be imposed, such as the suspension of new loans for a certain period of time.

During 1974-91, total NIF loans amounted to 7.5 trillion won (Table III.3). HCI loans captured the largest share, accounting for 66.6 percent (5 trillion won), followed by postshipment export financing (13.6 percent), the electric power industry (13.4 percent), and the expansion of food production (6.4 percent). During 1974-81, NIF primarily supplied equipment loans to facilitate HCI construction, specifically in the steel, petrochemical, and shipbuilding industries. It also provided loans to the electric power industry to meet the sharp increase in demand for electricity in constructing HCIs. During this period, the borrowing firms were designated directly by the government; for instance, the selection of buyers for domestically produced machinery was limited to those firms purchasing the items supported by the government.

Between 1982 and 1991, most of the loans from NIF went to numerous, vaguely categorized firms for the purchase of domestically produced machinery and postshipment export financing. The share of financing for the buyers of domestically produced machinery of total NIF loans increased sharply, from 15.4 percent during 1974-81 to 62.6 percent during 1982-91. This change in the allocation of NIF loans can be attributed to two factors. First, the construction of HCI facilities was mostly completed by the early 1980s, and this activity required less support; other sectors, such as HCI-product marketing, were becoming more important lending targets. Second, as the government's scheme to promote "strategic" firms and industries directly with preferential credits gave way in the early 1980s to more indirect and functional support of "unspecified" firms, the NIF operating mode has also changed from firm- and industry-specific support to function-specific support.

Table III.3. Size of NIF loans by sector
(Billion won; percent)

	1974-81	1982-91	1974-91
HCI	1,478 (59.5)	3,501 (70.1)	4,978 (66.6)
Purchase of domestic industries	228	2,193	2,421
Construction of machinery factories	195	58	252
Planned shipbuilding	239	683	922
Defense industries	212	134	346
Other HCI	604	434	1,037
Power industries	622 (25.1)	380 (7.6)	1,002 (13.4)
Post-shipment export financing	208 (8.4)	805 (16.1)	1,013 (13.6)
Agriculture, Saemaul factories	176 (7.1)	305 (6.1)	481 (6.4)
Total	2,484 (100.0)	4,991 (100.0)	7,474 (100.0)

Source: Bank of Korea, "National Investment Fund Statistics," 1974-91.

Table III.4 shows the size of NIF loans made by the participating banking sector. During 1974-91, specialized banks supplied 6.0 trillion won, accounting for 80.2 percent of total NIF loans; commercial banks and local banks supplied 1.3 trillion (16.8 percent) and 0.2 trillion won (3.1 percent), respectively. During 1974-81, the share of KDB loans in total NIF loans was 61.8 percent, which was the largest among the banking sector, but the share declined after 1982, while the shares of the KEXIM and other specialized banks (such as the Industrial Bank of Korea) increased. Two factors are responsible for this change since 1982: the decrease in NIF loans to the electric power industry and to long-term equipment financing, which had increasingly been supplied from the KDB, and the expansion of NIF loans to SMCs for the purchase of domestically produced machinery and for postshipment export financing.

Table III.4. NIF loans supplied by banks
(Billion won, percent)

	1974-81	1982-91	1974-91
Specialized Banks	2,034 (81.9)	3,958 (79.3)	5,992 (80.2)
KDB	1,535 (61.8)	1,603 (32.1)	3,138 (42.0)
KEXIM	208 (8.4)	805 (16.1)	1,013 (13.6)
Others	291 (11.7)	1,552 (31.1)	1,841 (24.6)
Commercial banks	405 (16.3)	851 (17.1)	1,256 (16.8)
Local banks	46 (1.9)	182 (3.6)	228 (3.1)
Total	2,484 (100.0)	4,991 (100.0)	7,474 (100.0)

Source: Bank of Korea, "National Investment Fund Statistics," 1974-91.

Effects of NIF

It is not easy to evaluate the impact of NIF on HCI growth, since HCIs received not only NIF loans but also nonpolicy loans from banking institutions, as well as other types of policy loans, such as equipment loans for the export industry. In addition, HCIs were also supported by such nonfinancial policy instruments such as tax exemptions, investment tax credits, and accelerated depreciation. Thus, this section attempts to evaluate the effect of NIF indirectly by investigating the Fund's leading role in channeling credits to HCIs, changing the industrial structure, and changing the product composition of exports.

Table III.5 shows the share of NIF loans outstanding to total loans supplied from banking institutions, including DMBs and the KDB. Although NIF's share of total bank loans to HCIs was only 6 percent in 1974, it increased continuously thereafter, reaching 25 percent at the end of the 1970s, with the beginning of the large-scale construction of HCI, including the Changwon industrial complex. Since then, the share has decreased gradually, accounting only for 4.9 percent of loans to HCI by the end of 1991. In particular, the share of NIF equipment

loans to HCIs by the total equipment loans supplied by the banking sector was remarkably high at the end of the 1970s: NIF supplied 70 percent of total equipment loans, indicating that NIF contributed heavily to the expansion of equipment investment during the HCI construction period. With HCI construction largely completed since the mid-1980s, the share of NIF equipment loans has fallen, reaching 11.4 percent by the end of 1991.

Concurrently, the share of NIF loans supplied to the power/gas industry of total banking sector loans supplied to the industry reached 67 percent at the end of 1982. Since then, its share has also continued to decrease.

NIF has helped institute a rapid change in the industrial structure toward HCI by guaranteeing not only access to credit but favorable loan terms, such as low interest rates and long loan periods. As shown in table III.6, the share of HCI in GDP was only 11.9 percent in 1970, but increased to 26.3 percent in 1980 (when it exceeded the share for light industry), and climbed further to 31.3 percent in 1988. The fabricated metal and machinery products industry grew more rapidly than did other HCIs. NIF also helped stimulating import substitution among HCIs. The import coefficient dropped from 36.9 percent in 1970 to 23.7 percent in 1980, and fell further to 21.6 percent in 1985. In addition, the share of HCI products in total exports rose substantially, from 12.8 percent in 1970 to 51.4 percent in 1988.

**Table III.5. Share of NIF loans in total loans by the banking sector
(Percent)**

Year	To HCl's		To power and gas industries
	Total loans ^(a)	Equipment loans ^(b)	Total loans ^(a)
1974	6.1	25.3	10.8
1975	11.1	42.0	28.0
1976	16.6	54.2	38.2
1977	20.5	56.9	44.6
1978	25.1	70.6	52.7
1979	25.2	70.2	56.0
1980	21.4	67.3	59.9
1981	20.9	68.1	66.5
1982	21.2	64.1	67.3
1983	22.1	62.0	58.1
1984	20.3	55.9	49.5
1985	17.8	45.9	35.2
1986	15.2	36.7	30.7
1987	13.5	30.4	25.3
1988	12.3	26.6	24.7
1989	10.0	21.6	23.2
1990	7.1	14.8	18.1
1991	4.9	11.4	8.1
1974-81	18.4	56.8	44.6
1982-91	14.4	37.0	34.0
1974-1991	16.2	45.8	38.7

(a) Outstanding NIF loans divided by total loans by DMBs and the KDB.

(b) Outstanding NIF loans divided by total equipment loans by DMBs and the KDB.

Source: Bank of Korea, "Overview of the National Investment Fund," 1989; Bank of Korea, "Monthly Bulletin," various issues; and Korea Development Bank, "Monthly Bulletin," various issues.

Table III.6. HCI development
(Percent)

	1970	1975	1980	1985	1988
Industrial structure					
Agriculture/fisheries	17.0	12.8	8.3	7.7	6.3
Mining	1.1	0.9	0.8	0.7	0.6
Manufacturing	40.3	50.4	51.0	50.0	52.7
Light industry	28.4	29.5	24.7	21.7	21.4
HCIs	11.9	20.9	26.3	28.3	31.3
Petrochemicals	5.9	10.8	12.6	11.4	10.0
Basic metal	2.0	3.4	5.1	4.9	5.3
Metal/machinery	4.0	6.7	8.6	12.0	16.1
Power/gas/construction	9.8	7.7	10.2	10.4	9.3
Service	31.8	28.2	29.7	31.2	29.4
Total	100.0	100.0	100.0	100.0	100.0
Import coefficient ^(a)					
Light industry	9.2	10.6	7.3	7.0	8.5
HCIs	36.9	29.5	23.7	21.6	22.5
Petrochemicals	23.5	19.7	14.9	17.0	19.1
Basic metal	35.1	27.6	18.9	17.6	20.4
Metal/machinery	50.5	41.7	35.8	26.9	25.1
Composition of exports					
Light industry	49.4	45.6	35.2	30.0	29.1
HCIs	12.8	29.0	38.3	47.5	51.4
Petrochemicals	5.4	9.2	9.9	12.4	11.0
Basic metal	1.5	4.0	8.1	5.8	5.1
Metal/machinery	5.9	15.8	20.3	29.3	35.4

(a) (Total import/total supply of goods to the market) x 100.

Source: Bank of Korea, "Input-Output Tables," various issues.

ANNEX IV. The founding of POSCO: A case study

Early in the 1960s, the Korean government recognized the steel industry as a vital cog in the process of industrialization, and designated it a strategic industry. The plan to promote the steel industry signaled Korea's turn to heavy industry.

However, building the steel industry in Korea was an ambitious undertaking, confronting many critical obstacles that made prospects bleak: (1) the steel industry is highly capital-intensive, but Korea lacked capital; (2) it is a typical natural monopoly industry in which costs are sensitive to scale, but Korea's domestic market was very small; (3) its return on investment is uncertain, with long gestation period; (4) both iron-ore resources and the technical skills necessary to produce steel efficiently were absent in Korea.

Despite these obstacles, POSCO, the first integrated steel mill in Korea, was established in 1968. POSCO rapidly became an international competitor,^{42/} and by the end of October 1992 had grown into the third largest steel company in the world, with a production capacity of 21 million tons. The amount of investment undertaken by POSCO throughout its growth was the largest by any single project in Korea's industrial history. Strong government support from various policy measures came especially in its early stages under the strong political leadership of President Park Chung-Hee, who was very much committed to promoting the steel industry.

Among government supports, financing was the most critical factor, since the construction of a steel-making facility required an enormous amount of capital. In what follows, we review the government's role in establishing and promoting the growth of POSCO as an example of Korea's industrial policy to promote infant industries. In particular, we focus on how POSCO mobilized the financial resources necessary to engage in the process of construction with help from the government.

The role of government in founding POSCO

Plans to establish the nation's first integrated steel mill were already conceived in the first five-year economic development plan of 1962. Since the domestic capital market alone could not finance the large-scale construction project, the government tried to draw foreign loans from Germany in 1962, and then again in 1967 through Korea International Steel Associates (KISA), an international consortium that included the United States, West Germany, the United Kingdom, Italy, and France. All efforts failed, in disagreement about the scale of the project and with uncertainty about whether the project would be profitable given the huge costs involved.

^{42/} Between 1983 and 1984, POSCO's annual average of net rate of return relative to sales volume was maintained at a level of 5%, very high when compared with those of the top five steel-producing firms in industrialized countries: 0.6% in Japan, -3.8% in the United States, and -0.8% in West Germany.

In the meantime, the World Bank had a critical view toward the plans of developing countries to build integrated steel mills.^{43/} The Bank recommended that the government give its utmost priority to the labor-intensive machinery industry and delay its plans to construct an integrated steel mill.

Despite these obstacles, the Korean government decided to promote the steel industry along with the petrochemical industry as top priorities in the second five-year economic development plan (1967-71). In 1967, the government enacted the Steel Industry Promotion Law and in the following year established POSCO.

The government supported POSCO in the steel mills construction in several ways. First, President Park made a critical decision in 1969 to use a substantial portion of the Japanese reparations fund agreed upon at the settlement of the normalization of treaty with Japan for the POSCO project. The decision to divert some of this fund evoked severe political opposition, because when the Korean government normalized diplomatic relations with Japan in 1965, a total of \$500 million of the reparations fund (\$300 million without interest, and \$200 million with an interest of 3.5 percent) was agreed to be allocated primarily to the agricultural and fisheries sector. Despite strong opposition, the bill to divert the funds was passed in after heavy persuasion by President Park. POSCO received \$77.2 million in reparations funds (\$30.8 million without interest, and \$46.4 million with an interest of 3.5 percent over twenty years with a grace period of seven years). This fund greatly defrayed the financial costs associated with constructing the integrated steel mill.

Second, the government decided that POSCO's authorized capital would be \$35 million, and designated the Korea Tungsten Company (KTC), the only profit-making public enterprise at that time, as the major shareholder of POSCO. The MOF and the KTC initially subscribed 0.75 million and \$0.25 million, respectively, to POSCO. It is noteworthy that, although POSCO's ownership was shared jointly by the government and a state enterprise, the company itself took the form of a corporation under commercial law. POSCO was set up in this manner in the belief that a private entity with a self-regulatory and efficient management could construct the steel mill more cost effectively.

Third, in order to make POSCO's financial status viable by reducing its construction costs, the government budget financed investment in the infrastructure, such as roads, a railroad, harbors, industrial water supply, and electricity. According to the Steel Industry Promotion Law, the government also provided POSCO with a tax reduction, as well as with discounted user fees for public services—railroad rate of 40 percent, a port rate of 50 percent, a water supply rate of 30 percent, and a gas rate of 20 percent.

Fourth, in order to increase the efficiency of the POSCO project, the government organized a 12-member Committee for the Development of POSCO, comprised of high-ranking officials in the Economic Planning Board, Ministry of Trade and Industry, MOF, the president

^{43/} At that time, the steel industries of such developing countries as India, Turkey, Mexico, and Brazil suffered from second-rate technology and became financially insolvent.

of POSCO, and private sector specialists from the steel industry.

Government's financial support at the outset of POSCO operations

From the foundation of POSCO to the completion of the fourth smelting furnace in 1981, 3.5 trillion won was mobilized to finance its investment. Foreign loans took the largest share in total mobilization (46.2 percent), followed by retained earnings (34.5) and domestic borrowing (12.8 percent).

When the first smelting furnace was being built, 92.3 percent of the total investment fund came from foreign loans (59.1 percent) and the subscription for equity capital (33.2 percent). Of total foreign loans, 43.4 percent (\$77.2 million) was from the Japanese reparations fund, 37.4 percent (\$66.5 million) from commercial loans from Japan, and 13.7 percent from commercial loans from Austria. Hence, funds from Japan comprised 81 percent of total foreign resources. Conversely, domestic funds came primarily from equity capital (33.2 percent of total investment funds) subscribed by the MOF, the KDB, and the KTC. Only 7.7 percent of total investment funds came from domestic banking institutions (mostly the KDB).

As POSCO began to earn profits after the smelting furnace's second phase of construction, the share of retained earnings in financing investment rose significantly. It resulted from the rapid depreciation scheme, the corporate tax reduction, and most importantly, the "no-dividend" policy for shareholders. As POSCO's credit rating rose after phase one construction came to a close, POSCO was able to raise the amount of foreign loans on its own and to diversify the sources of external funds. After the third phase of construction, foreign lending declined gradually, and borrowing from domestic banking institutions increased significantly.

Table IV.1. Financial sources of investment funds
(Billion won)

	1st phase (1970-73)	2nd phase (1974-76)	3rd phase (1976-78)	4th phase (1979-81)	Other ^(a) (1970-81)	Total
Foreign loans	711 (59.1) [178]	1,688 (63.6) [348]	3,176 (55.4) [766]	5,126 (45.8) [829]	5,153 (37.5) [536]	16,394 (46.2) [2,657]
Domestic borrowing	93 (7.7)	173 (6.5)	489 (7.3)	2,210 (19.7)	1,580 (11.5)	4,545 (12.8)
Equity capital	400 (33.2)	86 (3.2)	1,090 (16.2)	670 (6.0)	60 (0.4)	2,306 (6.5)
Retained earnings	- (0)	707 (26.6)	1,417 (21.1)	3,195 (28.5)	6,934 (50.5)	12,253 (34.5)
Total	1,204 (100.0)	2,654 (100.0)	6,712 (100.0)	11,201 (100.0)	13,727 (100.0)	35,398 (100.0)

Note: Figures in [] are in million dollars. All figures exclude operating investment.

(a) This covers restructuring investment during 1970-81.

Source: The 20-Year History of POSCO, 1988.

Table IV.2 shows the composition of POSCO's outstanding loans by sources between 1974 and 1981. At the end of 1974, 99.8 percent of total loans came from foreign sources and the KDB (83.3 percent and 16.5 percent, respectively), indicating that POSCO

depended almost entirely on policy loans in its initial stages. Thereafter, POSCO began to borrow from commercial banks and foreign bank branches, as well as from NIF through the KDB. Especially after 1979, foreign borrowing fell significantly, while loans from commercial banks and foreign bank branches increased. By the end of 1981, foreign loans accounted for 65.4 percent of total loans, commercial banks 11.3 percent, NIF 9.1 percent, foreign bank branches 6.2 percent, and the KDB 4.5 percent.

**Table IV.2. Composition of outstanding loans by sources
(Percent)**

	Comm'l banks (A)	Foreign bank branches (B)	Special banks (C)	KDB (D)	NIF (E)	Foreign loans (F)	Others (a) (G)	A + B	C+D+E+F+G	Total
1974	-	-	0.2	16.5	-	83.3	-	-	100.0	100.0 (93.4)
1975	1.0	-	0.1	7.6	0.5	89.9	0.9	1.0	99.0	100.0 (204.7)
1976	2.3	-	0.1	5.5	3.9	88.1	-	2.3	97.7	100.0 (281.0)
1977	3.8	2.0	0.1	3.1	3.6	86.8	0.5	5.8	94.2	100.0 (551.5)
1978	7.6	1.7	0.1	2.2	4.6	83.8	-	9.3	90.7	100.0 (843.7)
1979	12.3	0.3	1.1	5.4	5.8	73.1	-	12.6	87.4	100.0 (1,011.9)
1980	8.7	4.4	-	6.8	6.3	71.9	1.9	13.1	86.9	100.0 (1,666.8)
1981	11.3	6.2	1.8	4.6	9.1	65.4	1.6	17.5	82.5	100.0 (1,312.8)

Note: Figures in parentheses are total borrowing in billion won.

(a) Others include borrowing from the MOF.

Source: POSCO.

In conjunction with this support from low interest rate loans, the government also stipulated that no dividend be paid out to POSCO's shareholders, including commercial banks, so that the retained earnings could be devoted to capacity expansion and the stabilization of the sound financial structure. Although POSCO's total net after-tax profit accumulated to 637.5 billion won over the 17-year period until 1988, the government did not allow any dividend to be paid out shareholders until 1982.

When dividends were paid for the first time in 1983, only the commercial banks and the KTC received a 5 percent cash dividend. In 1985, all shareholders began to receive a 3 percent stock dividend, with an additional 4 percent cash dividend for the commercial banks and KTC. In 1987, 5 percent stock and 2 percent cash dividends were issued equally to all shareholders. POSCO was listed on the stock exchange in 1988, and from then it paid dividends a level similar to other private firms.

It was possible to maintain the "no dividend" policy despite the fact that the

commercial banks became the main shareholders of POSCO in the mid-1970s^{44/} (Table IV.4), because the commercial banks were owned and directly controlled by the government until 1982. In 1983, the ownership of commercial banks was transferred to the private sector, no longer under the government's direct control. Nevertheless, these banks continued to comply with the government's low-dividend payout policy until POSCO's public listing in 1988, because the MOF was able to impose its administrative guidance by intervening in the appointment of top bank managers.

Table IV.3. Dividend payouts from POSCO
(Percent)

	1972-82	1983		1984		1985		1986		1987		1988
		Cash	Stock									
MOF	-	-	-	-	-	-	3	-	3	2	5	12
KDB	-	-	-	-	-	-	3	3	3	2	5	12
Commercial bank	-	5	-	5	-	4	3	4	3	2	5	12
Employees	-	5	-	5	-	4	3	4	3	2	5	12
General public	-	-	-	-	-	-	-	-	-	-	-	12

Source: POSCO, "The 20-Year History of POSCO," and Hanil Bank.

Table IV.4. POSCO's ownership changes
(Percent)

	MOF	KDB	KTM	Commercial banks	Employees	General public	Total
1968	56.2	-	43.8	-	-	-	100.0
1969	18.0	50.0	32.0	-	-	-	100.0
1973	66.6	21.4	6.8	5.2	-	-	100.0
1976	40.9	41.6	5.5	12.0	-	-	100.0
1978	30.2	44.8	2.8	22.2	-	-	100.0
1981	32.0	39.6	2.5	25.9	-	-	100.0
1985	32.7	39.2	2.5	25.6	-	-	100.0
1987	33.4	38.0	2.5	26.1	-	-	100.0
1988	20.0	15.0	2.4	25.3	10.0	27.3	100.0
1992 ^(a)	20.0	15.0	2.4	20.4	9.0	33.2	100.0

(a) At the end of September 1992.

Source: POSCO, "The 20-Year History of POSCO," and Hanil Bank.

^{44/} The commercial banks became the main shareholders of POSCO in 1973 when the government, the largest shareholder of both POSCO and the commercial banks, began using part of its POSCO stockholding to pay in kind for the capital increase of the commercial banks.

Relevance of the success of POSCO

One of the main reasons behind Korea's rapid growth and industrial transformation into an HCI-led economy was that the government promoted the steel industry as the top priority in the early stages of the country's plan for economic development. In particular, creating competitiveness in the risk-prone and capital-intensive steel industry was a watershed in the industrial history of Korea, a late-comer developing country.

Among other things, the success of the POSCO project was predicated on two factors. First, POSCO mobilized the foreign funds necessary to construct the steel mills at low cost under the government's loan repayment guarantee. In particular, the diversion of the reparations funds from Japan at the outset of POSCO construction proved crucial, but this would not have been possible without the authoritarian leadership of President Park Chung-Hee. Moreover, preferential loans provided by domestic banking institutions, including the KDB and commercial banks under government control, were available to POSCO.

Second, banks—which were the major shareholders of POSCO—complied with the government's "no-dividend" policy until the early 1980s. Even after their privatization in 1982, these commercial banks adhered to the government's administrative guidance to curb POSCO's dividend payout until 1987. This cooperation led to the expansion of POSCO's retained earnings and in turn allowed it to maintain a sound financial structure, reducing bankruptcy risks.

Third, as a fiscal policy instrument, the government promulgated the Steel Industry Promotion Law,^{45/} which supported the reduction of taxes and provided discounted fees for public services.

Finally, the self-regulatory and autonomous nature of POSCO's management, although it was publicly owned, was a significant determinant of POSCO's successful performance. For instance, sound management played a key role in reducing the construction time of the steel mill, thus making early operations possible.^{46/}

When we examine the history of POSCO, we can say that its success (an exemplary case of Korea's industrial policy to promote risk-prone industries in its early stage of economic development) is due to a comprehensive industrial policy harmonized by cooperation between the government (acting as an active risk-partner) and the various banking institutions

^{45/} When this law was abolished in 1986, the government's various selective support to the steel industry, including POSCO, ended.

^{46/} Seoul National University (1987) and Inance and Dress (1992) provide details on POSCO's unique corporate culture and management.

and corporations whose incentive structures were affected by the strong commitment toward promoting the risk-prone steel industry.^{42/}

^{42/} *Amsden (1989) noted that "under conditions of heavy subsidization to a degree.... corporate profitability figures have little meaning. What becomes clear, however, is that even after adding in subsidies to POSCO's costs, POSCO was operating with a cost structure that was neither less nor more favorable than that of Japan, the world's premier producer."*

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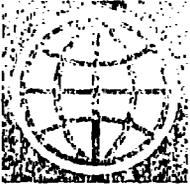
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