
CREDIT POLICIES: LESSONS FROM JAPAN AND KOREA

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The success of policy-based credit programs in Japan and the Republic of Korea suggests that credit policy can be an effective instrument for economic development. Why, then, have credit policies failed in so many countries, and what factors explain their relative success in Japan and Korea?

Both economic and institutional factors appear to be important in the success or failure of credit policies. Essential economic factors include a reliance on the private sector, a bias toward industrialization, an orientation toward export production, the encouragement of domestic competition, and a commitment to price stability. Crucial institutional factors include extensive and frequent consultation between government and the private sector, effective monitoring systems, and, most important, a clear and credible plan for economic development. Although several countries have included one or more of these factors in their programs, the experience of Japan and Korea suggests that a comprehensive network combining all or most of these factors may be necessary for the successful implementation of credit policies.

Directed credit programs that give loans on preferential terms and conditions to priority sectors were a leading tool of development policy in the 1960s and 1970s. The realization that most of these programs had created distorted economic incentives among both lenders and borrowers led to a reconsideration of their rationale and effectiveness during the 1980s. Countries around the world found that the programs had stimulated projects that were capital intensive, that preferential funds were sometimes used for nonpriority purposes, and that the programs had increased the cost of funds to nonpreferential borrowers. In addition, policy-based credit programs had provoked a decline in financial discipline that led to low repayment rates and a swelling of budget deficits. Once introduced, moreover, policy-based credit programs proved difficult to eliminate.

This negative assessment conflicts, however, with the experience of directed credit programs in Japan and the Republic of Korea. Government officials in these countries argue that subsidized interest rates and government involvement in directing credit are warranted under several circumstances: when the economy shows a significant discrepancy between private and social benefits; when the investment risk of particular projects is too high to attract private lenders; when the lack of reliable economic information discourages private lending to small and medium-size firms; and when infant industries face large social set-up costs (OECD 1991). They suggest that the main constraint facing new or expanding enterprises is limited access to credit at reasonable terms and conditions and that policy-based lending and other forms of industrial assistance such as grants and tax reduction can overcome this constraint.

Theoretical Underpinnings of Policy-Based Lending

In an ideal world in which economic information is complete and readily available, the financial system is passive. Investors fund the projects that yield the highest returns, and neither governments nor financial institutions need to improve the allocation of credit. In the real world, however, information is highly imperfect and costly to acquire, and the allocation of credit suffers from the unequal distribution of information, the costs of monitoring and verification, and the costs of default or contract enforcement. Under these conditions, credit is not necessarily allocated to its best use.

Informational asymmetries give rise to the possibility that credit may be given to unviable candidates (adverse selection), that it may be awarded to irresponsible parties (moral hazard), that some players will attempt to receive, without cost, the benefits of credit allocation (free riding), and that incentives arising from the credit program itself may conflict with one another or with program goals. These problems may be further compounded by uncertainty about project returns and by dynamic externalities, which occur when external, or social, benefits increase faster than do private benefits. The potential for difficulties of this kind justifies intervention by governments and financial institutions in the allocation of credit—even though their ability to allocate credit efficiently will also be constrained by the lack of information.

Economic theory has made considerable progress in recent years in understanding these phenomena and has bridged the wide gap that once existed between theory and practice (Calomiris and others 1992; Calomiris and Himmelberg 1994, 1995; Cho and Hellmann 1994). Economic theory now stresses, for example, the role of market imperfections in explaining why firms rely on internally generated funds (retained earnings) and other forms of “inside” finance (finance provided by owners, managers, and banks that have access to information not available to the public). Reliance on inside finance is especially pronounced for young growing firms and for new indus-

trial sectors in developing countries, and it is clearly a factor constraining industrial growth.

Lending by Banks

In the absence of full information, banks tend to allocate credit to firms with reliable track records or available internal funds, even if other firms present better investment opportunities. Financial intermediaries, especially (but not only) commercial banks, can acquire information that is superior to that of outsiders by developing and maintaining close long-term relationships with their customers. They can thus play an important role in screening projects, monitoring behavior and outcomes, and managing corporate distress.

These potential advantages of bank lending, however, depend on the behavior of the bankers involved and the incentives and regulations that govern their operations. In many countries, commercial banks favor lending for low-risk activities, such as self-liquidating, short-term working capital and trade finance, or for high-risk, but more speculative, projects with short payback periods, such as real estate development. That is especially true for countries where information on corporate performance is difficult to obtain, but it is also true for the United Kingdom, the United States, and the Scandinavian countries, which do not suffer from such problems. Commercial banks are generally less willing to finance high-risk projects with long payback periods, even if these projects may yield higher overall returns. They are generally also reluctant to finance small firms that lack adequate collateral, even though such firms may be more innovative and promising than others.

Lending by Governments

A government role in allocating credit can be justified on two grounds. First, directed credit programs can be a preferred or superior industrial policy instrument for reaping positive externalities (that is, for increasing benefits across the economy). If firms lack access to credit, other industrial policy tools, such as tariffs and subsidies, that may rely on cost and profit incentives to increase production could prove ineffective.

Second, the government has a comparative advantage in directing the allocation of credit. Government agencies (often in direct collaboration with private industrial associations and research institutes) may have better information on sectoral prospects than do individual private firms. They may therefore have an advantage in screening projects, as well as in monitoring behavior and outcomes—although that will depend partly on the relative efficiency of the government agencies and the financial intermediaries. In addition, government costs of enforcing contracts, through taxation and police powers, are likely to be lower than costs for private intermediaries. The power to tax, moreover, may make it possible for the government to internalize benefits from specific lending policies

that private intermediaries cannot capture. This advantage increases if there are technological spillover effects that neither the firm nor its intermediary can capture but that the government can claim through future taxes.

Ultimately, however, the advantages depend on the motivation and the efficiency of the government involved. Governments do not always "do the right thing." Government involvement in credit allocation can, and often does, result in rent seeking by borrowers, corruption by bankers and government officials, and crowding out of other worthwhile projects. An important issue in the study of policy-based lending is how governments can prevent rent-seeking behavior by borrowers from undermining the growth objectives of government policies.

Experience with directed credit policies varies widely. In Japan and Korea government intervention in credit markets is deemed to have been effective and beneficial for economic growth and development. In the vast majority of developing countries, however, credit policies have failed to promote growth and have given rise, instead, to severe market distortions.

Size and Scope of Programs

Most studies of directed credit policies focus on the size of the programs, the level of interest rates, and, especially, the level of subsidies. But focusing too narrowly on these aspects of credit policy may be misleading. In many cases, the government's influence on credit allocation may be much stronger than these levels indicate. Japan, for example, avoided highly negative real interest rates (rates adjusted for inflation) during its early period of economic development and had relatively small (explicitly labeled) directed credit programs. The government's role in credit allocation was nonetheless significant; in this early period Japan combined policy-based credit with extensive financial regulation to create a rigidly segmented financial system that favored lending to industry but discouraged lending for speculative purposes, real estate development, or consumption (Vittas and Kawaura 1995).

Similarly, one cannot assess the degree of government intervention in a country over time by simply looking at the level of real interest rates. Korea, for example, doubled the level of interest rates in 1965, yielding highly positive real rates. Its action was interpreted by many as financial liberalization, but the interest-rate rise actually strengthened the government's role in allocating credit by shifting funds from the unregulated curb (informal) market to the banks, which were more tightly controlled by the government (Cho and Kim 1995).

Program Management

Just as good or bad management affects the performance of firms, good or bad governance affects the success of credit policies. Although economists have recognized some merit to government intervention in specific markets, they have

often equated failures in these markets with a simplistic notion of government failure. Precisely what characteristics contribute to good economic management and good policy implementation?

Good management, even for an economy, does not always mean the least management or least intervention. It does, however, require effective incentive schemes to motivate behavior beneficial to the economy; it also requires a supportive institutional environment, an arrangement for close consultation and coordination between the government and business sector, and effective mechanisms for monitoring and enforcing performance. Government control of credit may also be understood in light of governance structures. Indeed, credit allocation was used as a powerful instrument for governance of industrial firms in Korea and, to a lesser extent, in Japan (Cho and Hellmann 1994; Vittas and Kawaura 1995).

Government's role in credit policy should also be understood in a dynamic context. In the early stages of economic development, when many markets are missing, when those that exist are highly imperfect, and when private institutions are poorly developed, government intervention can help stimulate healthy economic growth. In the later stages of development, when the private industrial sector has become more sophisticated and markets are better developed and more robust, the merits of government intervention diminish significantly.

Credit Supports or Grants?

Assuming that the government is able to identify and confront the problems arising from market imperfections, why should it use credit supports (preferential access to credit or subsidized interest rates) rather than grants (direct outlays through the government budget) to address these problems? The answer relates to both efficiency and flexibility. In disbursing grants, the government must select the individual firms that deserve support. In disbursing credit subsidies, the government need only signal the sectors that deserve support and leave the selection of individual firms to the banks. In addition, directed credit as an instrument of industrial policy depends partly on the timing of the subsidy, not simply the amount. Subsidies may be allocated more flexibly than grants, and they may take into account the performance of subsidized firms or industries. Good performance can be rewarded by rolling over debt or extending new debt; bad performance (including the diversion of funds to nonpriority uses) can be punished by reducing or terminating support. In addition, it is not clear, despite claims to the contrary, that budgetary outlays are more open to scrutiny than are credit subsidies. Both kinds of support risk politicization. In a country where individual credit allocations are based on economic criteria, operating through credit subsidies may be both less politicized and more flexible than operating through the budget.

Credit Policy in Japan

Japanese credit and industrial policy has evolved in response to the changing needs and structure of Japan's economy (Vittas and Wang 1991; JDB/JERI 1994; Vittas and Kawaura 1995). Three phases are usually identified: the reconstruction period, from 1945 to 1955, when industrial policy and the direct government allocation of funds were most significant; the high-growth period, from 1955 to 1973, when government policy operated less directly, although the financial system was rigidly segmented and subject to wide-ranging controls; and the liberalization period, from the mid-1970s to the present, when policy became less interventionist, and a slow but steady process of financial liberalization began.

Japan's early emphasis on individual industries has given way to a recent concentration on programs that cross industrial boundaries. The main focus of industrial policy in the 1950s was the expansion of capacity, followed in the 1960s by modernization and technological upgrading, in the 1970s by restructuring and adjustment at both the company and industry levels, and in the 1980s by diversification of the industrial structure. Throughout, Japanese credit (and industrial) policy seems to have had four specific industrial objectives: to pick and support "winning" industries, especially in markets in which Japan could enjoy a dynamic comparative advantage; to phase out industries in which Japan was no longer internationally competitive; to support small firms; and to provide the industrial infrastructure necessary for growth.

The extensive financial support given some traditional and relatively inefficient industries, such as agriculture, can be seen more as a social policy objective, or a response to political pressures, than as a component of an active industrial policy. Government regulation and intervention in the financial sector did not focus exclusively on securing cheap finance for the most dynamic sectors, but instead seemed to aim for a balance among the claims of different sectors.

Basic Features

During the high-growth era, several features of the Japanese financial system, although not unique in themselves, combined to produce a system quite distinct from Anglo-American or European financial systems. These features included the preponderant use of indirect finance; the reliance of the large city banks on credits from the Bank of Japan to fund their loans to industrial corporations; the overborrowing, or high leverage, of industrial companies; and the artificially low level of interest rates (Suzuki 1980; but see Kuroda and Oritani 1980, Horiuchi 1984, and Ikee 1987, who challenge the particularity of these characteristics). Other distinctive features of the Japanese financial system include the role played by the main bank system (in which certain banks were not only main lenders to specific companies but also the main shareholders and providers of other financial services), the close relations between banks and industry, the

different roles played by debt and equity in the Japanese financial system, and the important financial intermediary role played by large conglomerate groups, especially the general trading companies, in channeling funds to small firms at the periphery of different industrial groups. Because the financial sector in Japan was highly segmented during this period, the government had considerable control over the allocation of financial resources. The Japanese authorities did not, however, impose strict directed credit programs on private financial institutions.

The most distinctive element of Japan's industrial policy has been the cooperative relationship between government and industry, each of which has recognized the necessity of striving toward common goals. This cooperation has been reflected most clearly in the emergence of the "deliberative council system," by which councils made up of industry representatives, former bureaucrats, academics, and others have provided the public and private sectors with a forum for coordinating and developing policy directives. These councils were well established by the 1960s, when they decided almost all important industrial policies.

Another important aspect of Japan's directed credit programs has been the high quality of loan appraisal and project oversight. Loan approval is based on detailed reviews of the projects to be financed and evaluations of the history and character of the firms involved. Once projects are approved, no payments are made without adequate documentation. Close cooperation between development and commercial banks then ensures continuous monitoring of the performance of borrowers and allows development banks to take early action if loan repayments are in arrears. The general economic success of Japan has also meant that most borrowers have made substantial profits and have had little difficulty in repaying their loans.

Three general characteristics of Japanese credit policy seem particularly significant in accounting for its success. The first is the Japanese government's *respect for the market economy*. A precondition for a successful policy-based financial system is the existence of private business and financial structures that can be supplemented with policy-based funding. Japan's prewar experience as a market economy and its determination to establish postwar economic reform created an environment that encouraged entrepreneurship within the existing private sector.

The second characteristic (particularly evident as Japan's high-growth period unfolded) is the *close relation between policy-based finance and the government's economic plans*. The preconditions for this relationship are a public savings system (in Japan, the postal savings system) and a vehicle for the efficient allocation of funds (in Japan, the Fiscal Investment and Loan Program).

The third characteristic has been the Japanese government's *respect for managerial independence*, assuming the existence of a sound financial institution and management. Although the Japan Development Bank has had inherent limitations as a government-related financial institution, it has the autonomy to make funding decisions on a neutral and fair appraisal basis.

The Reconstruction Finance Bank and the Dodge Plan

The Japanese government established several agencies to assist in the distribution of policy-based funds. The first of these was the Reconstruction Finance Bank, which was created immediately after the war to provide finance to priority industries. It accounted for 84 percent of the total funding for capital investment during the postwar period and for 16 percent of the working capital needs of major industries such as coal, electric power, fertilizers, iron and steel, ocean shipping, and textiles. This financing facilitated the recovery of production of these high-priority industries and paved the way for Japan's economic recovery.

The Reconstruction Finance Bank was funded, however, by bonds underwritten by the Bank of Japan, a strategy that fueled inflation, which in turn made the fixed interest rates on priority loans highly negative. The loss of control over inflation, combined with a high incidence of delinquent loans (as well as financial scandal at the reconstruction bank), led the Japanese authorities to suspend the bank's operations in 1949, at which time the Dodge Plan for economic stabilization was introduced.

The Dodge Plan was intended to achieve a central government surplus and a unified and stable exchange rate. The plan initially caused a deep economic recession, with reductions in exports and investment, company closures, and production and personnel cuts. Successful implementation of the Dodge Plan, however, imposed fiscal balance, removed price controls, and contained monetary expansion. Although the policy brought about deflation, it created the stable macroeconomic environment necessary for the subsequent implementation of policy-based lending and other industrial policies leading to the rationalization and modernization of Japanese industry.

Other Directed Credit Institutions

In the early 1950s the Japanese authorities established several policy-based financial institutions to provide funding for industrial investment, housing development, and other purposes.

THE FISCAL INVESTMENT AND LOAN PROGRAM. To avoid the inflationary implications of financing these activities through monetary creation, these institutions were funded with resources collected through the extensive postal savings and annuities network and channeled through the Trust Fund Bureau as part of the Fiscal Investment and Loan Program. The funds available to the program amounted to 4 percent of gross national product in the 1950s and increased to more than 8 percent in the early 1990s. This increase reflects the growing importance of the postal savings funds. Policy-based finance through the trust fund accounted for 13 percent of total lending in the mid-1950s, fell to 10 percent in the 1960s, rose to 15 percent in the 1970s and 1980s, and declined to 12 percent in the early 1990s.

The funds have increasingly been used over the years for social (or, at least, nonindustrial) purposes, especially for financing housing development. The trust fund's share of the total supply of funds for new industrial equipment fell from about 30 percent in the mid-1950s, to 20 percent for most of the following two decades, to about 12 percent in recent years.

The most favorable interest rate offered by policy-based financial institutions at the beginning of the 1950s was 3.5 percentage points lower than the private sector long-term prime rate; the least favorable was the same as the prime rate. In addition, policy-based loans had much longer maturities (up to twelve years) and did not require the compensating balances that often substantially increased the cost of private finance, especially for smaller firms. Although policy-based loans continued at fixed rates of interest after the 1950s, success in maintaining macroeconomic and price stability avoided the recurrence of the highly negative interest rates that had bedeviled the reconstruction bank's early operations.

THE JAPAN DEVELOPMENT BANK. The successor, in a sense, to the Reconstruction Finance Bank, the Japan Development Bank was given a managerial independence the first bank had never had. The government assured the first governor of the Japan Development Bank that he would not have to bend to political pressure to fund nonviable projects and that loan decisions would be left to the professional judgment of bank staff and officials. The government was responsible for annually establishing the basic policy for the operation of funds and for conducting regular annual audits. The bank allocated project funds, monitored their spending, and assessed their impact. This system of multiple checks prevented the misuse of policy-based funds and enabled the development bank to keep its loan losses low.

The Japan Development Bank made relatively few mistakes in selecting loan projects. Despite its specialization in long-term industrial finance, the bank's loan losses during the high-growth era were much lower than those of the commercial and trust banks, which concentrated on short-term loans and more diversified loan portfolios. The bank experienced write-offs of 0.09 percent of average loans outstanding from 1951 to 1955 and of only 0.01 percent from 1956 to 1965. One caveat should be noted, however. Some of the loan losses incurred in declining industrial sectors, such as coal mining and, later, shipbuilding, were transferred to the Japanese government and absorbed by the general budget. This may explain the unusually low level of loan losses for the period, not only by the development bank, but also by most commercial banks.

When the development bank was established, the equity capital contribution from the government accounted for a substantial portion of its total funds. Because statutory reserves increased in proportion to increases in its loan balance, the bank's financial composition continued to be favorable. It could therefore offer a preferential interest rate in line with policy demands, without being subsidized by public finance. This strong financial position further guaranteed its managerial autonomy.

Empirical Evaluation

Two recent empirical studies lend support to the argument that policy-based finance in Japan was effective in stimulating initial growth and encouraging private investment in growing firms in priority industries. Horiuchi and Sui (1993) compared the investment behavior of medium-size firms receiving development bank assistance for the 1964–88 period with firms of similar size not receiving such funding. They found that the year of initial lending was associated with increased private investment and that within three years, firms began to move away from dependence on development bank lending to rely more on private banks. Horiuchi and Sui also found that directed credit was most effective for firms that did not have main bank affiliations.

Calomiris and Himmelberg (1995) examined the effect of policy-based finance for 1963–91 for the machine tool industry, an industry selected for its high potential for spillover effects through technological innovation and learning. The authors based their study on data for firms, collected with the support of the Japan Development Bank. Because the data set excludes firms that closed during the period, identifying positive effects from policy-based finance is somewhat difficult, particularly for the 1960s and 1970s, when machine tool producers underwent considerable consolidation and less-productive firms shut down or were merged with other firms.

The level of credit sought by machine tool producers declined over the consolidation period. It averaged 27 percent of capital from 1965 to 1974 but fell to 10 percent from 1975 to 1991. Similarly, total long-term debt for these producers fell in relation to capital, from 41 percent before 1975 to 26 percent afterward. Directed credit, which accounted for only a small part of total long-term credit for this period, fell from an average of 3 percent of capital before 1978 to 1 percent after the mid-1980s, or from more than 7 percent of all long-term credit to less than 4 percent.

A comparison of lending to general machinery producers by the Japan Development Bank, by private long-term lenders, and by the government-affiliated Export Import Bank of Japan provides interesting insights. Development bank lending declined, from between 3.7 and 5.3 percent of capital in the late 1960s to between 0.8 and 2.6 percent in the 1980s. This clear drop in support is consistent with the premise that government credit relaxed borrowing constraints and helped firms to become seasoned credit risks. Credit from the private Industrial Bank of Japan ranged from between 5.8 and 8.9 percent of capital in the late 1960s to between 4.0 and 6.6 percent in the 1980s. Thus, despite the growing recourse of Japanese firms to the Euromarkets in the 1980s, their reliance on private Japanese funding did not experience the same decline as their use of credit from the development bank.

In contrast to borrowing from the development bank, borrowing from the export-import bank registered a large increase, from between 0.4 and 0.9 percent of capital in the 1960s to between 3.8 and 19.9 percent in the 1980s. The

growing reliance on these loans must be associated with the increasing maturity of the industry and the greater part played by exports, and perhaps overseas operations, in the 1980s. Support from government sources thus showed considerable flexibility in responding to changes in the structure and orientation of the industries and firms receiving credit support. Similar patterns are observed for other types of machine tool producers.

Calomiris and Himmelberg also found that government funds had not been captured at either the industry level or firm level. Directed credit was usually provided to a firm only once and for a brief period (80 percent of firms received one-time credit for an average period of less than eight years). They also found that government credit was provided to large, growing, capital-intensive firms with high investment rates. Directed credit appears to have bolstered the positive characteristics of these firms, reinforcing the process of consolidation, investment, and technological change desired by the government. The authors also found that government credit was positively correlated not only with private credit, but also with reinvestment by the firms themselves. These results are weaker than those Calomiris and Himmelberg reported in 1994 for a shorter period (1982 to 1991). The authors' use of a different methodology in conducting the empirical tests seems to be the main reason for the weaker results reported in 1995. Another reason may be a selection bias in the sample used for the 1963–91 period, which did not include firms that closed in the 1960s and 1970s. If those firms were low-investment, poor-performance firms and those that survived were the ones more likely to have received government credit, the effect of government credit would be underestimated. In addition, accounting data for the earlier years are probably less reliable.

For the nearly thirty-year sample period studied by Calomiris and Himmelberg, a government loan of 100 yen produced an average investment of 60 yen. The effect of credit from the Japan Development Bank was even stronger: a 100 yen loan produced a 150 yen investment as well as 44 yen in long-term loans from private sources. During the 1960s credit from several government agencies shared equal responsibility for the overall effect of government credit; during the 1970s and 1980s, credit from the development bank had the largest and most significant impact. A possible explanation for this difference may be that other government lenders moved away from producers with high growth potential in the 1970s and 1980s.

Credit Policy in Korea

Credit policy in Korea has also experienced three distinct phases. In the 1950s and 1960s it was directed toward particular activities, mainly exports and industrial investment. In the 1970s it increasingly promoted specific industries, in particular, the heavy and chemical industries. The successes and failures of this phase induced a change in strategy, and in the 1980s the government became

involved in the industrial and financial restructuring of sectors and companies in distress. As in Japan, Korean credit (and industrial) policy began to focus not only on picking winners, but also on phasing out losers. At the same time, policy was reoriented toward producing a more balanced industrial sector that would not be dominated by a few business conglomerates. Lending to small and medium-sized firms received greater attention than it had in the earlier stages, and credit policy was redirected toward functional activities such as research and development and investment in equipment.

Basic Features

Credit policy in Korea differed from that in Japan in several important respects. It involved significant government subsidization of the cost of borrowing, and the scope of directed credit programs was much broader. The Korean program made extensive use of commercial as well as development banks to channel loans to priority sectors; the government owned both types of banks. Government intervention in Korean credit policy was also somewhat coercive. The government used a strong package of tax and financial incentives to encourage firms with minimum equity funds to enter priority industries, and it used its control of the banking system to exert strong leverage on the behavior of firms (World Bank 1987; Cho 1989; Vittas and Wang 1991; Cho and Kim 1995).

In the 1950s credit policies were often implemented without clear industrial policy goals. In the 1960s, however, they were structured specifically to support exports and were linked more closely with other policy measures.

The Korean government undertook a series of measures in the early 1960s to strengthen state control over finance. It nationalized the commercial banks and amended the central bank act to subordinate the Bank of Korea to the government. In 1965 it implemented interest rate reform, doubling the level of bank interest rates. This reform not only prompted the rapid growth of deposits in the government-controlled banks, but also expanded the scope of government control over the allocation of financial resources, as funds shifted from the informal, unregulated market to the regulated sector.

In addition, the government initiated close consultations with the business sector during the 1960s and careful monitoring of the performance of supported firms. The Monthly Export Promotion Meetings and Monthly Briefings on Economic Trends, which were chaired by the Korean president and included senior government officials, managers of industrial firms, bankers, and representatives of industry associations, constituted a forum both among ministries and between the government and the private sector. In these meetings, progress toward achieving policy goals was closely reviewed and a consensus sought on ways to address emerging problems. The economic management of Korean industry thus came to resemble that of a major corporation. The banks were used as the treasury unit; the industrial sector,

as the production and marketing units; and the government, as the central planning and control unit.

During the 1970s the government relied heavily on its control of the credit system, particularly policy-based loans to provide the heavy and chemical industries with preferential access to credit at substantially subsidized rates. The authorities had intended to reduce policy interventions in the credit market in the 1980s, but overexpansion of the heavy and chemical industries in the late 1970s, coupled with the collapse of foreign markets in construction, shipping, and shipbuilding in the early 1980s, forced the government to assist in restructuring industrial firms that faced financial difficulties. As Korean politics became more democratized in the late 1980s, the emphasis of directed credit programs was shifted to social programs and income redistribution.

SOURCES OF FUNDS. A significant difference in the selective credit policies of Korea and Japan has been in the source of funds used for policy loans. Korea has depended heavily on central bank credit and on deposits mobilized by commercial banks, and much less than Japan has on fiscal funds or funds mobilized through the government, such as postal savings. In Korea only 7 to 8 percent of the total value of policy loans extended by commercial banks were financed by fiscal funds; about 35 percent were financed through central bank credit at a discounted rate. Korea's heavy reliance on money creation to finance policy-based loans may in large part explain why prices in Korea have been less stable than in Japan.

Unlike Japan, Korea used foreign capital as a major source of policy-based finance. Foreign capital had a particularly strong effect on Korean economic development, moreover, because domestic savings were far below desired investment levels. Many observers overlook the role of foreign capital in shaping Korean economic policies (including financial sector policies) and the course of development in Korea. Between 1962 and 1982, the average annual economic growth rate was 8.2 percent. A rough estimate suggests that if investment had depended entirely on domestic savings during this period, the average growth rate would have been only 4.9 percent. Without ready access to foreign capital, Korea could not have continued the repressive financial policies that appear to have accelerated economic growth—although these policies also limited the mobilization of financial resources.

The Korean government controlled foreign loan allocation as tightly as it regulated domestic credit. All foreign loans required government authorization, and their allocation was determined by industrial policy goals. In 1965 the government revised the Foreign Capital Inducement Act to allow government-controlled banks to guarantee the repayment of foreign borrowing by firms. These guarantees encouraged inflows of foreign capital and technology, but they also perpetuated government intervention in the banks. To avoid default on foreign loans and possible profound disruptions in development projects, the banks often had to absorb, through the rescheduling of domestic bank loans, the exter-

nal shocks that prevented domestic firms from meeting their foreign debt service. The cost of government intervention in domestic banks had, in turn, to be shared by the banks' depositors.

THE SHARE AND STRUCTURE OF POLICY LOANS. Policy loans mobilized by the Korean financial system were substantial, accounting for about 50 percent of the total credit extended by domestic financial institutions in the 1970s. That proportion gradually decreased to about 30 percent as private nonbank financial institutions, which were not required to make policy-based loans, expanded their share in the 1980s. Policy loans accounted for about 60 percent of total lending made by government-controlled deposit money banks throughout the period.

In the 1960s and 1970s, policy loans were extended mainly to the manufacturing sector; its share of total bank credit was more than twice its share of gross domestic product (GDP), whereas the service sector's share was only about 60 percent of its share in GDP.¹ Within the manufacturing sector, export industries and the heavy and chemical industries received more credit in relation to their share in GDP than did light industries or industries producing for domestic consumption.

Policy Effectiveness

Available data suggest that Korean credit policies were effective in reducing the cost of funds to priority sectors and in enhancing their access to funds. Export-oriented firms enjoyed greater access to credit and lower borrowing costs than did domestic-oriented firms. Heavy and chemical industries, despite their high risk of failure, had greater access to credit and significantly lower borrowing costs than did light manufacturing industries. The availability and low cost of funds aided in the rapid expansion of the export and heavy and chemical industry sectors, especially in the initial, take-off stage.

This evidence does not necessarily imply, however, that selective credit supports were essential for rapid economic growth. The opportunity cost of such supports, that is, the cost of benefits lost by choices not made, are very difficult to estimate. A general equilibrium analysis might provide some answers, but in Korea such an analysis would face severe limitations because substantial parts of input and output prices were controlled in the early stages of development. It is too early, in any case, to provide a full answer to this question. Korean economic development is still in progress, and the cost of past financial policies may not have been fully realized.

It seems clear that export growth drove economic growth in Korea in the 1960s and 1970s and that credit support was indispensable for export growth. Thus credit support must have contributed to rapid economic growth (although a large subsidy may not have been necessary to trigger export growth). The effect of credit supports on growth of the heavy and chemical industries remains controversial, however. Although credit supports contributed to the rapid de-

velopment of the two industries, credit might have been used more efficiently, given the labor endowment in the 1970s, if its allocation had been better balanced between the heavy and chemical industries and light industry. It can also be argued, however, that had the push to develop the heavy and chemical industries not taken place in the 1970s, and the two sectors not become Korea's leading export industries in the mid-1980s, Korea might not have been able to take full advantage of the appreciation of the Japanese yen and the world economic boom in the second half of the 1980s. No solid answer can be provided to this question.

The impact of credit policies on industrialization is not limited to their effect on the cost of and access to credit. In an economy like Korea's, in which initial capital accumulation was low, and rapid investment growth was financed mainly by bank credits and foreign loans, firms were highly leveraged financially. As a result, any significant economic downturn would precipitate a financial crisis unless schemes existed for sharing risk between creditors and borrowers. By controlling finance, the Korean government became an effective risk-sharing partner with the industrialists. It could thus encourage their venturesomeness and induce them to have long-term horizons for their companies. The government was thus a partner, with industry and the banks, in an implicit coinsurance scheme. Without this partnership, Korea might not have been able to establish its large, internationally competitive industrial firms so quickly. This indirect effect of the government's credit policies may be more important than the subsidies themselves in explaining Korea's rapid industrialization.

The Cost and Legacy of Credit Policies

Government control of finance in Korea was not without cost. Several commentators have argued that the drive to develop the heavy and chemical industries was overambitious and resulted in a serious misallocation of resources. These critics maintain that the priority sectors expanded production capacity too rapidly, giving firms too little time to accumulate experience and digest new technologies. The result, critics say, was that most firms experienced excess capacity, high production costs, and products so low in quality that they could not be exported. At the same time, nonpriority sectors were forced to borrow at very high rates from the informal sector. This dual nature of the credit system created a major imbalance in the industrial structure of the country (Koo 1984; Kwack 1984).

Because Korea relied too heavily and for too long on credit interventions as an instrument of industrial policy, the costs were borne primarily by banks and their depositors. Commercial banks in Korea were involved so deeply in directed credit programs that they functioned as development banks. Managerial efficiency and quality of services were compromised, and the banks had large volumes of nonperforming loans. Nonbank financial institutions, which operated more freely, expanded rapidly and superseded the banks' share in the fi-

financial intermediation market. The expansion of the nonbanks helped to improve financial market operations by keeping competitive forces alive in the financial system.

The problem of carelessness and irresponsibility at the commercial banks was no less serious. As long as the government was willing to rescue firms, banks had little incentive to screen projects carefully or to monitor firms' performance. Indeed, the firms supported by the government became too large and dominant to be allowed to go bankrupt. In the mid-1980s when export markets collapsed after the second oil shock and the worldwide recession, considerable financial support was given to ailing firms and industrial sectors. Although detailed data for this period are not readily available, these setbacks apparently made it increasingly difficult for the government to break out of a pattern of financial repression. When the subsequent expansion of the Korean economy and the increasing sophistication of its industrial structure called for a more innovative and market-oriented financial sector, this past legacy became a constraint on liberalization.

Because Korea's industrial policy emphasized the economies of large-scale production to maintain international competitiveness, it led to overwhelming economic concentration within huge business conglomerates, known as *chaebols*. During the 1970s, it was not uncommon for these conglomerates to triple the number of their affiliates through new acquisitions. In the 1980s, in the face of growing public discontent with excessive economic concentration, the government was forced to redirect policies toward redistributing income; this change in focus often involved increased regulation of the business activities of the large firms.

Factors of Success in Japan and Korea

Theory and practical experience in Japan and Korea suggest that credit policy can be an effective policy instrument for economic development. Why, then, did credit policies fail in so many countries, and what factors explain their relative success in Japan and Korea?

The presence of specific economic and institutional factors seem to be essential to success. Economic factors include the maintenance of price stability, an orientation toward export production, the encouragement of domestic competition, a reliance on the private sector, and a bias toward industrialization. Institutional factors include the use of extensive public-private consultative arrangements, the creation of effective monitoring systems, and, above all, the development and propagation of credible visions.

Price Stability

Japan and Korea have, with occasional exceptions, both been able to maintain price stability. Price stability in itself, however, does not seem sufficient to

ensure the success of credit policies. Several countries in the Middle East, North Africa, South Asia, and southern Europe have also avoided high inflation rates. India, for example, has maintained better price stability than has Korea, but neither India's credit policies nor its economic performance have been as successful as Japan's or Korea's. Price stability seems clearly to be important for encouraging the growth of financial savings. India and other countries with moderate inflation have experienced a substantial deepening of their financial sectors compared with countries with similar levels of per capita income but with higher inflation. Japan, with very stable prices, has experienced steady and rapid growth of its financial system. Korea, however, with relatively high inflation, experienced poor growth of its financial sector in the 1970s, although that trend was reversed in the 1980s. The recent rapid growth of financial saving in China, where the macroeconomic environment has been relatively stable compared with other developing countries, also supports the importance of price stability.

Competition, Exports, and Private Ownership

The credit policies of Japan and Korea have been more successful than other countries primarily because those two countries were able to combine price stability with intense domestic competition, strong export orientation, and a significant reliance on the private sector. A strong orientation toward exports has forced domestic firms in Japan and Korea to attain high levels of efficiency in order to compete internationally. It has also provided objective criteria for monitoring the performance of individual firms and for assessing the effectiveness of credit supports. Good performance in export markets, for example, implies continuing access to policy-based finance.

Although both Japan and Korea have had import protection, the large industrial firms have engaged in vigorous competition in their respective domestic markets. Even in the economically stable countries of the Middle East, South Asia, and southern Europe, industrial production has often been sheltered from both domestic and foreign competition, has been directed toward domestic consumption, and has been controlled by state-owned enterprises.

Industrialization and Export Promotion

Credit policies in Japan and Korea have been narrowly focused and well coordinated with other policies. Policy measures, such as those dealing with foreign exchange, tax, and fiscal arrangements, have been directed toward supporting industrialization and export promotion, the main objective of credit policies. The allocation of foreign exchange in Japan and the approval of foreign loans in Korea have been coordinated with domestic credit policies to advance industrial strategy. Credit policies in India, by contrast, have focused on redistributing wealth and income toward small farmers and firms and have thus off-

set other programs supporting manufacturing and exports. These conflicting policies have often resulted in an implicit taxation of large industries to support farmers and small business.

Consultation with the Private Sector

Government participation and leadership in organizations such as the deliberative councils in Japan and the industrial associations in Korea have been critical in helping these countries avoid the pitfalls of credit policy. The cooperative networks they have established have helped to ensure that scarce resources are allocated to activities likely to yield long-term benefits across the economy, and they have provided an effective mechanism for collective risk-sharing by industry, government, and their lenders. Monthly meetings have offered opportunities to collect and exchange information, to reassure individual firms and lenders of the government's commitment to particular enterprises, and to promote consensus in pursuit of industrial policy goals. Organizations such as these, however, may be subject to manipulation, corruption, and inefficiency. Their use in allocating credit is an improvement over market solutions only if there are strong safeguards against abuse.

Monitoring

Reference has already been made to the effectiveness of monitoring in Japan and Korea. Loan approval in Japan is preceded by careful review and independent appraisal, and the use of funds is strictly monitored. Fund disbursement is based on adequate documentation, and continued access to policy-based loans depends on success in reaching objective targets, mostly in internationally competitive export markets.

The importance of effective monitoring cannot be overemphasized. What matters for economic development is not really the mobilization and allocation of financial resources but the efficient use of those resources. Any country can mobilize resources by printing money, which it can then allocate to priority sectors. Such money creation will, of course, increase inflationary pressures, but if the resources are used well and lead to higher and more efficient levels of production, unit costs will be lowered and will offset the inflationary impact of the initial monetary financing.

Vision

Although economists have generally paid little attention to the broad aspects of strategy, the importance of having a credible and consistent vision for economic development cannot be overstated. In both Japan and Korea, industrialization and economic growth have taken precedence over the development of an efficient and modern financial sector. Although the authorities have been com-

mitted to ensuring the safety of deposits and the solvency of financial intermediaries, they have been less concerned with allowing banks and other financial intermediaries to innovate and develop new services intended to reduce the cost of financial intermediation. Banks in both countries have been subject to extensive controls—on bank spreads and interest rates, branching and bank mergers, and bond issues—as well as to administrative guidance that initially discouraged lending for consumer credit and housing finance and encouraged the creation of large industrial-financial groupings. In addition, both countries have encouraged lending to fast-growing, high-yield industries, such as automobiles, electronics, petrochemicals, and steel, in which income elasticity of demand has been high, technological progress has been rapid, and labor productivity has risen quickly. Their strategies have emphasized dynamic comparative advantage rather than static cost considerations (Ojimi 1972; Johnson 1982; Yotopoulos 1991).

It is ironic that the current sorry state of Japanese banks derives from bad loans made after credit policies were relaxed in the 1980s and real estate lending was expanded exponentially. The lesson to draw from the current experience of Japanese banks, however, is not that liberalization was ill advised. Japan's industrial success made inevitable a reorientation of its financial system toward real estate lending, housing finance, and consumer credit. What hurt the banks was the failure to recognize accumulating problem loans and to take early measures to address the impact of that buildup on the banking system.

Several other aspects of broad strategy have contributed to the success of credit policies in Japan and Korea. Both countries, for example, have emphasized *complementarities in production* for exports and domestic sales. This tactic has allowed resources to shift to exports when balance of payments problems forced the government to curtail domestic demand and to shift back to domestic sales when the problems of paying for imported raw materials have eased. The rationale is that if factories can operate through all phases of the business cycle, they can achieve higher scales of production and lower operating costs (Johnson 1982; Yotopoulos 1991).

Japan has benefited from an industrial strategy that has been adjusted over time to meet the needs of general development goals. This *flexibility of focus* has allowed Japan to emphasize, first, the recovery of priority production, then the modernization of equipment in heavy industries, and, later, the development of new industrial sectors, such as machine tools, with a high potential for producing positive economic side effects. The strategy has also accommodated the smooth adjustment of declining industries, the restructuring of companies facing difficulties, and the rationalization of entire sectors of industry suffering from overcapacity.

Credit policies in Japan and Korea have also emphasized the use of *additional instruments of industrial policy* to complement policy-based finance. Both countries have made extensive use of incentives such as accelerated depreciation allowances and tax-free special reserves. These incentives have permitted success-

ful firms in targeted sectors to retain and reinvest a larger part of their profits than firms in nontargeted sectors have been allowed to retain. Particularly important have been the special reserves that are tied to past export performance, because these are linked with the overall strategy of export promotion. These incentives have reinforced the impact of credit policies and have accentuated the credibility of directed credit programs.

The existence of coherent, credible visions for development in Japan and Korea has also lent substance to *the consultative process*. Many countries have tried to promote close consultation between government and the private sector, but without a clear vision for development, such exchanges have been little more than ineffective talk shops or forums for special pleading. An important contribution to this collaboration in Japan and Korea was the governments' collection and dissemination of information about long-term sectoral prospects, an activity not readily undertaken by the private industrial sector or the private securities markets. A clear vision of economic goals supported by the analysis of broadly reliable data about the prospects of particular industrial sectors reinforced the economic signaling effect of policy-based finance in Japan and Korea.

Lessons from Japan and Korea

Ten general lessons can be drawn from the experiences of Japan and Korea. The first six relate to "good vision," the last four to "good management." First, credit programs must be small in size, have a narrow focus, and be of limited duration with clear phase-out provisions. Second, programs must involve a low level of subsidy (if any), to minimize incentives to profit from price fluctuations and also to reduce the tax on financial intermediation that all credit programs necessarily entail. Third, programs must be financed by long-term funds to avoid inflation. Recourse to central bank credit, in particular, should be avoided except in the very early stage of development, when selective credit programs supported by central bank credit might help jump-start economic growth and development. Even at this stage, however, care must be taken to prevent high rates of inflation. Fourth, programs should aim at achieving positive economic or social side effects (or at avoiding negative effects). They should therefore focus on overcoming the external finance constraint facing small or rapidly expanding firms as well as helping firms in declining industries to phase out in an orderly and timely fashion. Fifth, programs should promote industrialization and export orientation, and they should be based on a competitive private sector with internationally competitive operations. Sixth, programs should form part of a broader credible vision of economic development, promoting growth with equity and including a long-term strategy to develop a sound financial system operating on economic criteria.

Seventh, policy-based loans should be channeled through well-capitalized, administratively capable, and autonomous financial institutions. Professional

management and managerial autonomy are essential. Eighth, loans should be based on clear, objective criteria that are easily monitored. Detailed project appraisals, close supervision of disbursements, and monitoring of performance and repayment records are essential to the success of credit programs. Ninth, policy-based programs should aim for a good repayment record and low loan losses. Tenth, programs should be supported by effective mechanisms for consultation between the public and private sectors, including the collection and dissemination of basic market information.

Although these lessons are important, replicating the Japanese and Korean experience may be difficult in today's financial environment. High technology coupled with the globalization of financial markets has substantially reduced the effectiveness of foreign exchange controls on capital movements and has limited the ability of government authorities to set interest rates substantially below market levels. The new World Trade Organization agreement, moreover, limits the use of credit policies. Despite these potential obstacles, however, the greatest challenge facing most developing countries in the use of policy-based finance remains the absence of the essential factors of good vision and good management that explain the success of directed credit policies in Japan and Korea.

Notes

Dimitri Vittas is Adviser with the Financial Sector Development Department of the World Bank. Yoon Je Cho is Vice President of the Korea Tax Institute. This article draws on the findings of a World Bank research project on the "Effectiveness of Credit Policies in East Asian Countries." These findings were published either as World Bank Discussion Papers or as Policy Research Working Papers and are cited in the list of references. We are grateful to our many collaborators in this project and to several staff members of the World Bank for useful insights and comments.

1. The manufacturing sector received 46 percent of total bank loans given in 1970 and 54 percent of the total given in 1980. In contrast, the service sector received only 29 percent in 1970 and 24 percent in 1980.

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