WPS 1443

POLICY RESEARCH WORKING PAPER 1443

Policy-Based Finance, Financial Regulation, and Financial Sector Development in Japan

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Is Japan a good model for developing countries? Certainly macroeconomic stability, good information systems, effective monitoring, and financial discipline are essential for smooth-functioning, efficient financial systems. But is there scope for state intervention in organizing the financial system and using well-designed, narrowly focused directed credit programs in the transition from malfunctioning financial systems to modern, efficient ones?

The World Bank
Financial Sector Development Department
April 1995

Summary findings

The Japanese government's role in creating a macroeconomic and financial environment conducive to rapid industrialization and economic growth went beyond maintaining price stability, say Vittas and Kawaura. The government created a stable but segmented and tightly regulated financial system that favored the financing of industry over other sectors of economic activity.

Lending practices, the direction of policy-based finance, and the structure of Japan's financial system changed over time, but one thing stayed constant: the authorities' vision. Some observers maintain that Japanese policies — emphasizing the development of internationally competitive industries — retarded economic growth. And government policies were not the only or even the most important factor in Japan's success. One key to success was government agencies' close cooperation with the private sector, and the government's reliance on privately owned and managed corporations to achieve government-favored industrial goals.

Japan's financial system was quite different from Anglo-American and continental European financial systems. Vittas and Kawaura discuss some characteristics of the Japanese system in the high growth era:

- The preponderant role of indirect finance.
- The "overloan" position of large commercial banks.
- The "overborrowing" of industrial companies.
- Artificially low interest rates.
- The segmentation and fragmentation of the financial system.
- The underdevelopment of securities markets and institutional investors.
- The key role played by the main bank system.
- The close relations between banks and industry.
- The different roles debt and equity played in the Japanese system.
- The role large conglomerate groups, especially general trading companies, played in channeling funds to small firms at the industrial periphery.
- The role of policy-based financial institutions.

These features evolved in the context of high savings rates and an accumulation of assets, mobilized mostly through deposit institutions, including the postal savings system, and transformed into short- and long-term and risky loans through commercial and long-term credit banks as well as specialized government financial institutions.

Are hard work and good management the secrets of Japan's success? Hard work may be as much a symptom as a cause of economic success, say Vittas and Kawaura. But good management has unquestionably been a key to Japan's economic success.

Whether Japan's approach is better than others is more difficult to answer. Japan may have overtaken several European countries but was still lagging behind the United States and a few European countries in per capita income expressed in purchasing power parity terms. And although the Japanese approach played a significant part in promoting industrialization and accelerating economic growth during the period of reconstruction and high growth, it also entailed significant long-term costs — in terms of poor-quality housing and other urban infrastructure, for example. And the excesses of the 1980s and Japan's current economic recession undermine claims about its ability to continuously outperform other countries.

This paper — a product of the Financial Sector Development Department — is part of a project to study the effectiveness of credit policies in East Asia. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Priscilla Infante, room G8-118, extension 37642 (55 pages). April 1995.

Financial Sector Development Department
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POLICY-BASED FINANCE

AND

FINANCIAL SECTOR DEVELOPMENT IN JAPAN

Dimitri Vittas and Akihiko Kawaura

I. INTRODUCTION

The purpose of this paper is to offer a consistent and comprehensive analysis of some salient features of Japanese financial practice in the postwar reconstruction and high growth era. These are features that appear to have contributed to the phenomenal success of the Japanese economy in the thirty years after the end of World War II. Most of the observations made are well known to scholars and observers of the evolution of the Japanese financial system. However, many of these features tend to be misinterpreted, especially when they are discussed in isolation. The paper emphasizes the role of the government in creating a macroeconomic and financial environment that was conducive to rapid industrialization and economic growth. This went beyond the maintenance of price stability and also covered the creation of a stable but segmented and tightly regulated financial system that favored the financing of industry over other sectors of economic activity.

Although lending practice, the direction of policy-based finance and the structure of the financial system changed over time, one of the constant features of the period under review was the existence of a credible vision by the authorities that emphasized the development of internationally competitive industries. There are some observers who maintain that Japanese government policies retarded economic growth. However, it is difficult to believe that high economic growth was achieved despite government supportive policies, let alone that growth would have been even higher had government policies been more neutral. At the same time, it is also difficult to believe that government policies were the most important factor behind the Japanese economic success. Indeed, one of the main elements of the Japanese vision was the close cooperation of government agencies with the private sector and the reliance on privately owned and managed corporations for the achievement of the industrial goals favored by government policies.

The Japanese financial system had during the period of reconstruction and high growth a number of features that, though not unique to it, combined to give it a character that was quite distinct from that of Anglo-American and continental European financial systems. Suzuki (1980) long identified four such characteristics: the preponderant role of indirect finance; the "overloan" position of large commercial banks; the "overborrowing" of industrial companies; and the artificially low level of interest rates. Other salient features included: the segmentation and fragmentation of the financial system; the underdevelopment of securities markets and institutional investors; the role played by the main bank system; the close relations between banks and industry; the different roles played by debt and equity in the Japanese financial system; the financial intermediary role of large conglomerate groups, especially the general trading companies, in channelling funds to small firms at the periphery of industrial groups; and the role of policy-based finance institutions (Aoki 1988 and 1990, Corbett 1987, Elston 1981, Horiuchi 1992, Horiuchi et al 1988, JDB/JERI 1993, Patrick 1984, Teranishi 1990, Vittas and Brown 1982).

These features evolved in a broad context of high saving rates and large accumulation of financial assets, mobilized mostly through deposit institutions, including the postal savings system, and transformed into short and long term and risky loans through commercial and long-term credit banks as well as specialized government financial institutions. It is only since the mid-1970s that securities markets started to play an important role as sources of finance for public and private sector entities, while the impact of institutional investors (insurance companies and pension funds) has an even more recent origin.

None of these features was unique to Japan. Segmentation and fragmentation of the financial system characterized many developing countries and were also quite pronounced in some developed ones, such as the United States, Italy and Norway. Indirect finance, "overloan" bank positions, and highly leveraged corporate sectors were the norm in the vast majority of developing countries as well as the less advanced among the high income countries (e.g., the countries of Southern Europe). Repressed interest rates, directed credit programs and government development banks proliferated in the developing world.

Even high saving rates and mobilization through postal savings occurred in many countries with high growth rates and low inflation (the countries of Southern Europe as well as several North African and Middle Eastern countries exhibited these features). The main bank system, the keiretsu groups and the role of general trading companies may be classified as unique to the experience of Japan (other Asian countries that developed similar institutions have clearly emulated the Japanese experience). Yet, one could argue that the system of house banks that had long prevailed in Germany had many features that were similar to those found in Japan. Perhaps what was unique about Japan was the combination of a segmented and repressed financial system with macrostability and export orientation, the existence of the main bank system and keiretsu groups, and active but "good" government.

While the structure of the Japanese economy and Japanese industry experienced very rapid change as the era of high growth unravelled, the structure of the Japanese financial system evolved at a much slower pace. Although there was considerable change, this mostly affected the size and types of operations of different parts of the financial system with relatively little effect on its overall structure. Its evolution toward a more sophisticated, integrated and balanced system was held back by the regulatory policies applied by the Japanese authorities. In particular, there was little attempt to remove the fragmentation and segmentation of the financial system, even though these were used as arguments for the justification of the use of policy-based finance in postwar Japan.

To some extent, the slow pace of financial deregulation may be explained by the greater emphasis placed by the Japanese authorities on economic development through industrialization and the apparent secondary importance attached to financial sector development. It may also be related to the greater control over the allocation of financial resources that a segmented and less sophisticated financial system conferred on the authorities. In addition, the lack of confidence that a more advanced financial sector could promote industrialization and economic development may also have played a part in shaping the Japanese approach to financial sector development.

The performance of countries with more liberal financial systems, such as the United States and the United Kingdom, did not at the time provide adequate reassurance that more sophisticated financial systems could make a better contribution to industrialization and thus accelerate economic development. Indeed, the experience of Japan, the United States, the United Kingdom and Scandinavian countries in the 1980s (a period of extensive financial liberalization) suggests that the caution and concern of the Japanese authorities in liberalizing the financial system during the high growth era may have been fully justified.

The experience and performance of the socioeconomic system of Japan gives rise to two important questions. First, to what extent can the remarkable performance of the Japanese economy during the reconstruction and high growth era be attributed to its particular policies with regard to industrialization and economic development. The second question is whether the Japanese approach is inherently superior to that of other advanced countries in a way that would allow Japan to overtake and pull away from other advanced countries in the years to come.

The evidence for an affirmative answer to the first question is very strong, even though many economists argue that the main factors behind the success of Japan were hard work, good management, and high saving and investment. Many economists have also pointed to the access enjoyed by Japanese exports to the more open markets of the United States and Western Europe during a period of declining trade barriers.

Putting aside hard work and good management, the problem with these explanations is that some of the underlined attributes also characterized other countries with more modest records of achievement. Thus, they appear to disregard the fact that most developing and developed countries had access to the more open markets promoted by trade liberalization. In addition, several countries achieved high saving and investment rates in an environment of macroeconomic stability. Yet few developing countries outside East Asia showed the same persistently high rates of economic growth.

On the other hand, as already noted above, state intervention in credit allocation and mobilization of stable financial resources through postal savings were not unique features of the Japanese experience. Many developing countries had controlled and repressed financial systems, mobilized financial savings through postal savings or other deposit banks, and used development banks for credit allocation. Yet the performance of these other countries was not as persistently good as that of Japan and other East Asian countries.

There can be no doubt that hard work and good management are closely associated with economic success and economic growth. But hard work is not a constant that some countries have and others do not. British workers were perceived as very hard working, reliable and productive when British industry and the British economy were doing well but were criticized for their self-centered and short-sighted working practices during the long period of relative economic decline suffered by the British economy. Thus, hard work and good working practices may well be a symptom, as much as a cause, of economic success.

Good management is probably more a cause than a symptom of economic success. Good management encompasses strong leadership in designing action plans with clear objectives and in implementing them effectively and flexibly. The Japanese private sector, and especially Japanese industry, have received considerable praise for their effective management practices and their ability to implement long-term strategies. The success of development policies in Japan could also be attributed to its good management of government policies. The Japanese approach entailed the development of credible visions, the reliance on extensive consultation with the private sector, the formulation of well focused programs, and the use of effective monitoring and other means of execution of these programs. Although they are difficult to quantify, it is these features that appear to have made a distinct contribution to the economic success of Japan.

The second question is more difficult to answer. Claims about the alleged superiority of the Japanese system and its ability to overtake and pull away from other advanced economies appear to be based on somewhat uncritical projections of economic trends over the 1970s and 1980s when the Japanese economy was able to sustain a high rate of growth and industrial success, including a remarkable export performance despite an unrelentingly rising exchange rate. In the first place, these projections disregarded the fact that, although Japan may have overtaken several European countries, it was still lagging behind the United States and a few European countries in per capita income levels expressed in purchasing power parities. They also disregarded the significant long-term costs of the Japanese approach, in terms of the low quality of housing and other urban infrastructure relative to the level of per capita income of the country, or the large costs of industrial restructuring. Furthermore, they did not allow for the changing nature of the Japanese system, where both trade and financial liberalization weakened the ability of the authorities to exert control over market developments and also lessened the importance of most of the features that have characterized the Japanese system during the high growth era.

The excesses of the 1980s and the current economic recession facing Japan undermine claims about its ability to continuously outperform other countries. The coincidence of these problems with the underlying changes in the structure and orientation of Japanese industrial and financial policy raise the possibility that they may be partly explained by the abandonment of the traditional approach and by coordination failures during the difficult transition to a less regulated and directed system. Still, it is doubtful that the traditional approach could have been sustained in the face of the growing complexity and sophistication of both industry and finance and the rising importance of individual industrial and financial groups with strong vested interests.

Although it may no longer be sustainable, the traditional Japanese approach played a very significant part in promoting industrialization and accelerating economic growth during the reconstruction and high growth era. The recent experience of other East Asian countries suggests that the Japanese approach can be replicated in other countries, provided certain preconditions are met and provided certain lessons from the failures of industrial and credit policies in other developing countries are heeded.

It is important to emphasize that the same preconditions that are required for successful industrial and credit policies, e.g. well functioning bureaucracies, effective monitoring, and financial discipline, are also required for successful market-based policies. In particular, there is now widespread agreement that macroeconomic stability, good information systems, effective monitoring, and financial discipline are essential for the smooth functioning of efficient financial systems. The question for developing countries is whether there is scope for state intervention in the organization of the financial system and the use of well designed and narrowly focused directed credit programs in the transition from inefficient and malfunctioning financial systems to modern and efficient ones.

This paper addresses the first of the two questions raised above. Unlike the second question, which is based on debatable, and often uncritical, projections of past trends, there is strong evidence about the relevance of the first question. Several studies have recently addressed this same issue. In addition to the World Bank study of the East Asian Miracle (World Bank 1993), the Economic Development Institute has conducted a detailed study of the main bank system, while senior officials of the Japan Development Bank and Japan Economic Research Institute have completed a comprehensive study of policy-based finance in postwar Japan (JDB/JERI 1994). This paper, which is part of the World Bank research project on the Effectiveness of Credit Policies in East Asia, focuses on the links between policy-based finance and the evolution of the Japanese financial system. It draws extensively on these three studies but more especially on the JDB/JERI study.

The remainder of the paper is divided into four sections. The next section sets out the evolution of the Japanese financial system. Section III reviews some important aspects of policy-based finance, while the following section discusses the importance of credible visions for the success of policy-based finance. The last section summarizes the paper and offers some conclusions on the relevance of the Japanese experience for developing countries.

II. THE EVOLUTION OF THE JAPANESE FINANCIAL SYSTEM

Although the pace of change of the financial system was much slower than that of industry, the system was far from static. Both the Japanese financial system and policy-based finance experienced considerable change over time. Discussion of the importance of various features of the system needs to take full account of the fact that the object of analysis was a moving target. This was as true of the impact of regulatory restrictions as of more basic features, such as the importance of the main bank system.

In the discussion that follows, attention is focused on: the size of the financial system; its segmentation and fragmentation; the role of the main bank system and the keiretsu groups; the "overloan" position of large commercial banks; the impact of branching and merger controls; the role of other financial institutions (such as the postal savings system and Trust Fund Bureau, the long-term credit banks and government financial institutions, and institutional investors and securities markets); the issue of repressed interest rates and compensating balances; the overborrowing and high leverage of the corporate sector; the role of general trading companies; and the restrictions on housing loans, consumer credit and real estate development finance. The operation of policy-based finance and its interaction with the evolution of the financial system are discussed in the following section.

Size. Although the underdevelopment of the Japanese financial system was used as a justification for the reliance on indirect finance and the operation of directed credit policies, this underdevelopment referred to the qualitative structure of the system, and especially the limited part played by securities markets and long-term institutional investors, rather than to its quantitative aspects. The Japanese financial system, benefitting from a high rate of household saving and a strong liquidity preference, was very large, in relation to GNP, even before World War II. In the postwar period, households continued to save at very high rates. As investment in housing was constrained by the limited availability of household credit facilities and the high price of new housing, this translated into a vast accumulation of financial assets.

Between the end of World War II and 1988, the financial sector of Japan expanded at an average annual rate of 21% in terms of deposits, savings, certificates of deposits (CDs) and bank debentures (**Table 1**). Although the sector's annual growth rate declined steadily from 46% in the late 1940s to 26% in the 1950s, 19% in the 1960s, 17% in the 1970s and 10% in the 1980s, it always outpaced the expansion of gross national product (GNP). The increase in its ratio to GNP confirms the tempo of its expansion. In the 1960 fiscal year, the ratio to GNP was already 113%. This rose to 143% in 1970, 203% in 1980 and 289% in 1988 (**Table 2**).

Since interest rates on household deposits were generally low, this vast growth in financial savings must be attributed to the high rate of saving, itself mainly caused by high economic growth and low fertility rates, and to the public's trust in the stability and safety of banks. Following the banking crisis of the 1920s, the authorities ensured that no bank would be allowed to fail and no depositor would suffer losses. Weak banks were almost invariably merged with stronger ones as a means of imparting greater public confidence in the safety of bank deposits.

Fragmentation and Segmentation. The Japanese financial system is not as fragmented as, say, the US system. There is a total of nearly 7,000 financial institutions, or about 50 per million people, as against a total of well over 40,000 institutions, and over 150 per million inhabitants, in the United States. Moreover, almost 6,000 of the Japanese financial institutions are very small agricultural and fisheries credit cooperatives with a small aggregate share of household deposits. There are less than 150 commercial banks against well over 10,000 in the United States. Other advanced countries, such as Italy and Norway, have also suffered from greater fragmentation than Japan, although most European countries have far more concentrated financial systems, especially if savings banks and credit cooperatives in Germany, the Netherlands and France, which are linked through regional and national central institutions, are treated as single entities.

Unlike fragmentation, segmentation in the financial system was quite extensive, in both functional and geographic terms. There was the long-standing legal separation of commercial and investment banking, which was imposed by the occupation authorities after the war and has been very slow to remove. Commercial banks were restricted to raising short-term deposits and making short-term loans, with the longer maturities reserved for the long-term credit banks and the government financial institutions. In addition, the business of trust banking was limited to a few institutions.

Among commercial banks, the large city banks tended to focus on the larger customers and members of the keiretsu conglomerate groups, although over the past dozen years or so, there has been a shift of emphasis toward smaller firms and households. During the reconstruction and high growth era, the orientation of city banks was clearly toward large corporations. Regional banks specialized in dealing with middle market companies, while the old sogo (or mutual) banks and the credit associations concentrated on smaller firms. There were also numerous finance companies that provided consumer credit to individuals while housing loan companies extended housing loans. Although city banks always operated nationwide branch networks, the restrictions on branching and mergers prevented them from encroaching effectively on the business of regional and sogo banks.

The Main Bank System and Keiretsu Groups. The main bank system and the keiretsu groups are two of the most distinctive features of the Japanese financial structure. The two features are not identical but they are clearly closely related. In postwar Japan it is possible to classify industrial groups into three types: traditional groups; bank-centered groups; and modern industrial groups.

The first type includes those groups, such as Mitsubishi, Mitsui and Sumitomo, that are the direct descendants of the prewar zaibatsu. These comprise a large number of companies that are linked together by small, but widely spread, cross shareholdings, by interlocking directorships, and by preferential business arrangements. Group companies of modern zaibatsu are indebted to the group banks and other group financial institutions and do business with each other, often through the group general trading companies.

The second type are bank-centered groups, such as the Dai Ichi Kangyo, Sanwa and Fuji bank groups. Bank-centered groups are substantially less cohesive than modern zaibatsu. Companies tend to be indebted to the group bank but they are not associated with each other and cross shareholdings are less extensive. There is also a greater tendency for the larger companies in the group to be financially independent and this may also explain the comparative looseness of bank-centered groups.

The third type are normally formed around a large manufacturing company such as Toyota and Matsushita. These groups tend to be more homogeneous than the other two, but the number of group companies can be very large with many specialized small companies acting as sub-contractors and depending on the larger members of the group for their business or credit. Depending on their financial performance, the leading companies in these groups may have no bank debt.

The main bank system was more central to the functioning of the first two types of keiretsu and less so for the third type that had a less close affiliation with individual city banks. As is argued at length in various papers produced for the EDI project on this topic, the main bank system has some common features with the German Hausbank approach, but goes well beyond it in many respects (Aoki, Patrick and Sheard 1994). The main bank system is related to the preponderance of indirect finance in the Japanese financial system, the use of loan syndications and the practice of extended cross shareholdings among member firms of particular Keiretsu conglomerate groups. A main bank would normally be a member of the same group, the largest lender among commercial banks (a long-term credit bank or a trust bank may be a larger lender), and one of the largest shareholders among financial institutions. It would take the lead in organizing loan syndications, undertaking project appraisals and lining up other lenders. After approval, it would monitor the behavior and performance of borrowing firms on behalf of other members of the loan syndication. In times of difficulty, it would work out a rescue plan, involving rescheduling of loans, reduction of interest payments, changes in share capital, restructuring of operations, and replacement of management. It would explain the situation to other lenders, trying to reach consensus but would compensate other lenders that might wish to withdraw their support.

The origin of the main bank system can be traced to the prewar practice of first cross shareholdings and then loan syndications as the prewar zaibatsu ran out of internally generated funds for financing their expansion plans and had to resort to external funding (Teranishi 1994). This was reinforced by the designation of manager banks for the financing of munitions companies toward the end of the war effort. After the war, despite the dissolution of zaibatsu, prewar practices re-emerged with the formation of keiretsu groups.

It is sometimes argued that the main bank system was not a deliberate creation of government policy (Patrick 1994). This may be so but the system had the government's blessing and its emergence was supported by government measures, such as the permission for banks to own up to 10% of the equity of individual companies in the early 1950s when Japanese officials and industrialists were keen to prevent foreign companies from acquiring large stakes in Japanese companies. As is argued below, the main bank system and the close relationships between banks and industry that it entailed were part of the vision of the authorities regarding the role of the financial system in promoting industrialization and growth.

The essence of the main bank system was not only the buildup of close relationships and consultation between banks and industry, but also the economies of scale in delegating monitoring to one bank and avoiding the free riding problems that could arise when financial institutions had small exposures and small stakes in the success of individual industrial and commercial companies. It is claimed that the main bank system lowered the agency costs of external finance and the costs of rescuing and restructuring firms in distress (Sheard 1994). It is not, however, clear that Japanese banks developed better capabilities in monitoring firms. As is argued by Corbett (1987), the methods of credit appraisal and lending criteria, including the reliance on collateral security, used by Japanese banks were if anything less sophisticated than those used by American or British banks.

Rather the main bank system was part of the closeness of relations in a keiretsu group, which involved regular meetings and exchange of information at different levels in the hierarchy of management, reaching up to the meetings of presidents of first line group companies. The main elements were the discussion of group plans, the formulation of group policy and the sense of mutual commitment that industrial companies could rely on the support of their main banks, while the main banks would be compensated with additional fee based business for arranging loan syndications and being ready to provide support in times of difficulty.

Group discussion and monitoring provided a useful check against overexpansion as well as against overdiversification of individual companies, especially into unrelated activities. The main bank system, and more broadly the keiretsu groups, provided an effective mechanism for coping with long-term uncertainty, for encouraging specialization, and for preventing managerial indulgence in overexpansion and overdiversification. The big losses suffered by corporate conglomerates in the United States and the United Kingdom were generally absent in Japan (at least until the 1980s).

However, the main bank system also entailed significant costs. It implied a structure of rigid relationships (the convoy concept). These could change but with difficulty as most financial institutions were reluctant to suffer a decline in their relative position in group syndications. It restricted the managerial independence of industrial companies, which became a bigger handicap as operations and attendant problems became more complex. And, with a growing disparity in performance among different industrial sectors and among different individual companies within industrial sectors, it increased the extent of cross-subsidization among group companies and the exposure of banks to problem loans in poorly performing companies. It is perhaps the existence of these costs, which increased over time, that explain the vast recourse by Japanese industrial companies to the eurocurrency and eurobond markets during the 1980s. The availability of cheaper funds both in terms of lower coupon payments and in terms of fewer managerial restraints weakened the close ties of keiretsu groups and diminished the part played by the main bank system in industrial finance during this period.

The "Overloan" Position of City Banks. For most of the high growth era, the large city banks benefitted from the regulation of deposit interest rates but were prevented from collecting too many deposits by branching and merger restrictions that protected the position of regional and mutual banks. Instead, city banks relied on financing from the Bank of Japan for complementing their deposit funds and meeting the large demand for loanable funds by the large industrial companies that were their main customers. For most of this period, city banks operated with what is known as an "overloan" position. The "overloan" position amounted to as much 10% of the total credits granted by the city banks at the height of their dependence on central bank funds.

The "overloan" feature was not unique to the Japanese financial system. As already noted, commercial banks in many developing countries also operated with "overloan" positions and relied on their central banks for funding their lending operations. But in most other developing countries, central bank credit was linked to credit policies that sought to influence the allocation of credit both to different sectors and to individual companies. An extreme example of central bank influence was Francophone Africa where individual commercial bank credits above a certain threshold required the prior authorization of the central bank. This extensive meddling in commercial bank lending decisions was absent in Japan.

There is no evidence that the credit accommodation of the Bank of Japan was extended with conditions attached that the funds be channelled to particular industries or individual companies. But the existence of the "overloan" position clearly strengthened the moral suasion and administrative guidance offered by the Bank of Japan with regard to lending policies. In particular, the Bank of Japan had considerable leverage in discouraging city banks from lending for speculative purposes, such as real estate development, or for lending to the household sector for housing finance or consumer credit. It is perhaps not surprising that Japanese banks engaged in substantial direct and indirect lending for housing and real estate purposes in the 1980s when they were no longer dependent on Bank of Japan funds for financing their loans and the moral suasion of the authorities carried less weight.

Branching and Merger Controls. Japanese commercial and other banks were subject to rigorous controls on mergers and branch expansion. For most of the postwar period, bank mergers were approved mostly in response to financial difficulties, although the policy became more liberal in recent years. Branching controls limited the ability of large banks to expand their networks and attract more household deposits. For most of the postwar period, city banks were confined to small net increases in their branches, although approvals for relocating branches were more readily granted. The result of this policy was that although city banks operated nationwide with branches in all major cities, their branch networks were very small by international standards with an average of 200 branches per city bank. In the 1970s, this compared with over 3,000 branches for each large British bank, well over 2,000 for large French commercial banks, and well over 1,000 branches for the large German commercial banks. The biggest city bank, the Dai Ichi Kangyo Bank, had 300 branches in the 1970s (it was overtaken in the 1990s by the Sakura Bank, which resulted from the merger of Mitsui and Taiyo Kobe banks and had over 500 branches at the time of the merger).

Although economists have traditionally questioned the benefits of large branch networks and have argued that they represent an inefficient form of nonprice competition, banks around the world have engaged in massive branch expansions when allowed to do so. This was the experience in Germany after the removal of branching controls in 1958 when commercial banks, savings banks and credit cooperatives proceeded to double and even triple their branch networks within the spate of five years. The same pattern was repeated in France in the late 1960s, in Spain in the mid-1970s and in Italy in the late 1980s. In the case of Italy, branch expansion was more limited because of the advent of electronic banking and plastic cards that allow remote banking and thus reduce the importance of branches in collecting deposits, marketing loans and servicing customers. Even in the United States, elimination of branch restrictions at different states was accompanied by large branch expansions.

The branching controls in Japan prevented city banks from increasing their market share in deposit gathering and perpetuated the segmentation of the banking and deposit market. It is sometimes argued that branch licenses were used by the authorities as carrots and rewards for well behaving banks, while license refusals were used as sticks for defiant banks. But the evidence provided for this is rather weak, especially in view of the continuing rapid expansion of the network of post offices and the success of postal savings in attracting household deposits. **Table 3** shows the increase in branch networks for the largest city banks. The larger than average increases experienced by some banks in the 1960s and by Sumitomo in the 1980s were the result of bank mergers, often arranged by the authorities. Otherwise, in awarding branch licenses, care seems to have been taken not to upset the prevailing ranking of banks.

Throughout the postwar period, there were more post offices accepting deposits than all the head-offices and branches of city banks, regional banks, trust banks, long-term credit banks, sogo banks and shinkin banks combined (**Table 4**). It was only in 1990 that bank branches finally outnumbered post offices. The number of branches of city banks might have increased more rapidly if there was no branch regulation by the Ministry of Finance (MOF). In order to maintain the "order" of the banking sector, the MOF restricted the expansion of city banks' branch networks to protect the business of regional, sogo and shinkin banks[1]. Between 1953 and 1990, those three types of "local" banks increased their branches by 110%, 125% and 297% respectively. In contrast, city banks managed to expand only by 91% and this despite playing a much bigger part as main banks for large industrial companies than the "local" banks.

Postal Savings and Trust Fund Bureau. Established in 1875, the postal savings system grew exceptionally rapidly in the past 30 years or so. Arguably, it is the largest single financial institution in the world with total deposits in excess of 130 trillion yen (about 1.3 trillion US dollars), which is approximately three times that of the world's largest bank. The postal savings system benefitted from a large nationwide branch network and from preferential tax and regulatory treatment. Although interest income on small deposits with all banks was exempt from income tax, postal savings benefitted from the greater ability of depositors to hold more than one account in fictitious names in post offices than in banks. In addition, postal savings offered longer maturities of up to 10 years, while the banks were initially limited to up to 12 months until 1971 and have since extended the maturity range of their deposits to up to 3 years.

The Trust Fund Bureau is a mechanism by which the government (Ministry of Finance) manages the savings and deposits obtained through various channels such as postal savings, postal life insurance and welfare insurance. The growth of postal savings and Trust Fund Bureau funds in relation to total financial assets and GNP are shown in **Table 5**. The Trust Fund Bureau provides funds to the various government financial institutions, while in the 1950s it also invested extensively in the debentures issued by long-term credit banks. In this respect, it has been argued that the reliance of the Industrial Bank of Japan on funding from the Trust Fund Bureau may explain its greater role in financing firms in priority sectors during this period (Packer 1994).

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1 Ueda (1994) notes that "even as of May 1993, city banks are not allowed to open more than one branch every two years", although the authorities recently announced that all branching restrictions would be abolished.

Long-Term Credit Banks and Government Financial Institutions. The segmentation of the Japanese financial system was also reflected in the role of long-term credit banks and government financial institutions. These institutions specialized in providing long-term finance and generally played a complementary role to that of commercial banks during the reconstruction and high growth era. Government financial institutions were expressly prohibited from competing with banks and other private financial institutions. Their purpose was to provide finance for projects and borrowers who could not obtain funds at satisfactory terms from commercial sources. The loans and discounts and securities holdings of government financial institutions relative to those of other financial institutions are shown in **Tables 6 and 7**. It can be seen that GFIs accounted for around 10% of total loans.

The main source of funds for the long-term credit banks, of which the Industrial Bank of Japan was by far the largest and most important, was the issue of two types of debenture: one-year discount debentures, bought mainly by individuals, and five-year coupon debentures, initially bought mainly by financial institutions, but after the mid-1970s also bought mainly by individuals. Long-term credit banks also accepted deposits from financial institutions and from their own clients, but they were not permitted to take deposits from the general public.

The government financial institutions, of which the Housing Loan Corporation was the largest, but the Japan Development Bank and the Export-Import Bank of Japan the most important for providing finance to industrial companies, relied for their funds on allocations from the Trust Fund Bureau, the government agency that channelled postal savings and other longer-term resources. Government financial institutions also included the Small Business Finance Corporation for lending to small and medium-size firms and the People's Finance Corporation for lending to very small and newly created firms. The loans of different GFIs are shown in **Table 8**.

The complementarity between long-term credit institutions and commercial banks was manifested in the division of appraisal and monitoring responsibilities. Long-term credit institutions analyzed the prospects of particular sectors, carried out project appraisals and compiled credit reports. The sector assessments prepared by the Industrial Bank of Japan were particularly important during the first two postwar decades. In contrast, monitoring of the behavior and performance of borrowers after the granting of particular credits was entrusted to commercial banks. Unlike the government financial institutions, the Industrial Bank of Japan also played an active part as a main bank for large companies that did not belong to particular keiretsu groups, especially in the steel sector and other heavy industries. As such, IBJ took the lead on numerous occasions in arranging mergers, organizing workouts and generally rescuing firms in difficulty (Packer 1994).

Underdevelopment of Institutional Investors. During the high growth era, institutional investors played a very limited part in the Japanese financial system, although they have been growing rapidly in more recent years. The main reason for this was the absence of separately funded company pension schemes. Despite the relative underdevelopment of social security, most companies either operated unfunded schemes or maintained book reserves to meet their future pension obligations. These were favored by tax regulations and were invested internally in the business of the sponsoring company rather than through the securities markets.

Insurance companies were better established but were highly regulated and restricted in the business they could undertake and the investments they could make. Trust banks, which specialized in fund management and trust business, were more developed although half their business consisted of loan trusts, which involved the creation of trusts for lending to commercial and industrial business. Since the late 1970s, institutional investors, especially funded company pension schemes, have experienced immense growth, following the change in regulatory orientation and the increasing emphasis on financial liberalization.

Limited Role of Securities Markets. The securities markets also played a very limited role during the reconstruction and high growth era. The equity market enjoyed rapid growth in the 1950s and early 1960s, but a major setback suffered in the mid-1960s caused big losses to individual investors and massive withdrawals of funds. Raising new external equity by companies was discouraged by the requirement to price new shares at par rather than market values, which raised the effective cost of external equity. Most equity issues were rights issues allocated to existing shareholders. Cross-shareholdings among Keiretsu firms were encouraged, while restrictions were imposed on shareholdings by foreign investors. The corporate bond market was also subject to tight restrictions regarding collateral security, issuing commissions, coupon rates, size and other issue terms.

The securities markets started to expand after the mid-1970s, when the government resorted to long-term bond finance in order to finance its large deficit in a noninflationary form. A gradual process of liberalization was then set in train as commercial banks objected to having to hold to maturity large quantities of government bonds. The securities markets became a major source of finance for large national and regional companies during the 1980s (Campbell and Hamao 1994). Fund raising through the use of convertible bonds and bonds with equity warrants in domestic and international markets allowed Japanese companies to expand their productive capacities in the 1980s at very low funding costs. But such excessive fund raising also fuelled the speculative bubble that characterized the Japanese economy in the second half of the 1980s. The collapse of share prices in 1990 and the expiration of warrants and conversion options exposed Japanese companies to big increases in their funding costs at a time when their sale revenues and profits suffered substantial falls as a result of the continuing appreciation of the yen and the economic recession in Europe and the United States.

Repressed interest rates and compensating balances. As noted above, Suzuki identified as one of the characteristics of the postwar financial system the artificially low level of interest rates, although this view has been disputed by some economists[2]. The issue of interest rates is obscured by the practice of compensating balances on which little hard information is available. It is also obscured by a conceptual debate regarding the suitability of different price indices for deflating nominal rates.

What is not disputed is that nominal interest rates on both deposits and loans were controlled for most of the postwar period and especially during the high growth era. It is also not disputed that the level of effective lending rates was affected by the widespread practice of compensating balances.

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2 For a review of alternative views held by Japanese and other commentators on this and other related issues, see Vittas and Wag (1991).

Compensating balances ranged from 11% for large corporations borrowing from city banks to over 40% for small firms borrowing from sogo banks and credit cooperatives (Hamada and Horiuchi 1987). It is not clear whether compensating balance requirements were based on average or minimum balances and whether they were placed in noninterest-bearing demand deposits or interest-bearing savings or time deposits. Some analysts indicate that compensating deposits were interest bearing and were based on average balances. They also suggest that compensating balances were to some extent held willingly by corporations both because they provided liquidity against future credit controls and because they were perceived as contributing to the cementing of closer and stronger relationships with their banks (Suzuki 1980).

The impact of compensating balances on the effective nominal cost of loans depends on their size, their nature (average or minimum) and their return. If large corporations were required to maintain balances equal to 10% of loans and if the loan rate was 7%, then the effective loan rate would rise to 7.78% if compensating balances earned zero interest, to 7.44% if they earned 3% interest, and to only 7.22% if they earned 5% interest. For smaller companies, where compensating balances were reported to reach as high as 40%, the effective loan rate would rise from 7% to 11.87% with zero interest on compensating deposits, to 9.67% with 3% interest, and to 8.33% with 5% interest. Thus, the impact of compensating balances could range from a trivial few basis points to an escalation of interest costs by nearly 500 basis points.

Apart from the dispute regarding the effective nominal level of interest rates, another controversy concerns their real level. Deflated by the consumer price index (CPI), real interest rates, especially those on household deposits, were quite low (almost zero or slightly negative) in Japan during most of the high growth era. But deflated by the wholesale price index (WPI), they were positive and not lower than similarly deflated interest rates in other OECD countries (Horiuchi 1984). The difference arises from the higher productivity gains of tradable goods that mostly make up the WPI compared to the services and nontradables that are heavily represented in the CPI.

The difference between the WPI and the CPI was much larger in Japan during the high growth era than in other OECD countries. Thus, one could argue that real interest rates were positive and not lower than those of other OECD countries if they were deflated by the WPI, but they were low and mildly repressed if deflated by the CPI. Given that the consumers save in order to smooth their consumption and especially in order to be able to sustain their living standards during their retirement, it seems more appropriate to use the CPI for deflating nominal interest rates.

A further aspect of the interest rate debate is that in a high growing economy like Japan real interest rates, even if they were deflated by the WPI, should have been higher than those prevailing in other more slowly growing OECD economies. Ueda (1994) argues that interest rates, adjusted for the cost of compensating balances, were below market clearing levels for most of the high growth era.

The overborrowing and high leverage of the corporate sector. Another characteristic of Japanese finance was the high level of borrowing and high leverage of Japanese industry. Lending to industry from all domestic sources was quite high throughout the high growth era as industrial companies resorted to borrowing from private and government financial institutions to finance their large investment programs and expansion of capacity and production. A comparison of four countries showed that outstanding loans to industry in Japan corresponded to 118% of GDP in 1975 as against 44% in France, 43% in the United Kingdom and 41% in Germany (Vittas and Brown 1982).

Apart from the much greater demand for investment funds, this high level of borrowing can be attributed to a number of more technical aspects of Japanese financial practice at the time. First, companies maintained large funds on deposit with Japanese banks: these amounted to 33% of GDP against 17% in Germany, 9% in France and 8% in the United Kingdom (Vittas and Brown 1982). Second, Japanese companies provided trade credit to the household sector, which in other countries was provided directly by the banks. This was partly the result of restrictions on granting consumer credit by banks. Thirdly, Japanese banks lent at the time small amounts to overseas residents and thus companies had to borrow more from their banks to finance exports to overseas residents by comparison with American or European companies. Fourthly, again at the time, Japanese companies had a smaller recourse to financial markets overseas, a practice that changed dramatically in the 1980s. In contrast, large American and European corporations frequently raised funds in the eurocurrency markets. Fifthly, Japanese corporations used to provide housing accommodation to their workforce, which inflated their demand for credit.

The argument that Japanese companies operated with high leverage was based on reported figures which showed an equity ratio of around 15% during the high growth era. This compared with well over 40% for UK companies and over 60% for US companies. But reported leverage levels were (and still are) heavily distorted by differences in accounting conventions. Three main conventions led to under-reporting of equity ratios in the accounts of Japanese companies during the high growth era (Vittas and Brown 1982). First, companies enjoyed a number of tax free reserves (for bad debts, bonus payments to employees, pension obligations, depreciation of fixed assets, export performance, etc.) that appeared on their balance sheets as long-term liabilities and inflated their reported indebtedness. In the UK and the US, such items would either be held in separate trusts (e.g. funding for pensions) or would be deducted from the gross value of assets (e.g. depreciation reserves for fixed assets). Second, larger companies had unusually high levels of trade receivables and accounts payable. Both of these factors had the effect of swelling the liabilities of companies on the balance sheet. Third, fixed assets (especially land) failed to be adequately revalued over time. As a result, the true equity of Japanese companies was understated. Allowing for differences in valuation of assets and other accounting practices for a sample of large Japanese companies in 1974, the equity ratio increased from 16% to 47%, which was not much different from that of UK or US companies (Kuroda and Oritani 1980).

The leverage of Japanese companies was probably quite high in the 1950s when companies had few reported or hidden reserves and their assets were valued at close to market prices. The Japanese practice of relying on collateral security, operating cashflow and close relations between industrial companies and their financiers suggests that banks may have been willing to allow companies, especially new or rapidly expanding ones, to operate with levels of borrowing and leverage that would be considered abnormally high in the UK or the US. This could well be a major benefit of the existence of keiretsu groups and the main bank system. In addition, the government financial institutions and the long-term credit banks may have encouraged lending to highly leveraged firms in the 1950s and early 1960s when lending to priority sectors and for expanding capacity were the main targets of policy-based finance. Successful and profitable companies were expected to build reserves and their assets to increase in value (even though the legal prohibition on asset revaluation prevented their true value from being shown on the balance sheet). Over time, such companies were able to lower the degree of effective leverage to more normal and sustainable levels, both by building reserves and by repaying their bank loans.

Discussion of the leverage of Japanese corporations must also bear in mind the extensive use of cross-shareholdings among Keiretsu firms. It is generally estimated that more than 75% of the equity of large Japanese firms is held by other firms in the same Keiretsu. A major part of this is held by financial institutions, mainly insurance companies and trust banks, though city banks also hold significant shares. If cross-shareholdings are netted out, the leverage position of Japanese companies would be much higher than estimates based on the market value of assets and liabilities would indicate. This would not necessarily imply a structural weakness for Japanese companies. Assessment of the required equity base of highly diversified groups of companies would depend on several factors such as the financial and managerial independence of different companies in a Keiretsu group, the covariance of risks among group companies, the legal or moral recourse that company creditors have on other group companies, etc. The prevalence of the main bank system in the past suggests that group resources were somehow available to individual companies that might have been in distress, justifying the low "net" equity levels of keiretsu groups. But if individual companies become more independent and cross-shareholdings decline in importance, then the true equity base of Japanese companies might have to rise over time to levels that would be closer to those prevailing in Anglo-American countries.

The financial assets and liabilities of the corporate sector and the flow of funds for five year periods from 1961/65 through 1986/90 are shown in **Tables 9 and 10.** The high reported leverage of Japanese corporations is clear even though **Table 9** does not include fixed assets, retained earnings and the various reserves accumulated by Japanese companies. However, **Table 10** shows the clear trend away from reliance on bank loans and toward greater recourse to marketable securities, including issues of foreign bonds. In the late 1980s funds raised through the issue of securities represented over 20% of the total sources of funds while loans from GFIs accounted for just over 6%.

The role of general trading companies. A discussion of Japanese financial structure would not be complete without reference to the role of general trading companies. Although their role has declined in recent decades, they played a very important part during the reconstruction and high growth era. General trading companies were not financial institutions but they performed a major financial function in many industries and were often described as "quasi-banks". Trading companies provided finance to a large number of small firms including manufacturers and retailers as well as exporters and importers. Much of their finance took the form of short-term and medium-term trade credit, but a significant proportion was also channelled as equity finance. Trading companies also provided technical assistance with production, marketing and export strategies to smaller firms at the periphery of industrial groups. They complemented their services with assessments of the credit standing of individual firms. These assessments were used by city and other commercial banks for their lending to smaller firms.

General trading companies had a significant advantage over commercial banks in lending to small and new companies at the periphery of the keiretsu groups. By being involved in marketing and production decisions, they had access to better and more reliable information on the prospects and performance of individual companies. They could also take corrective action more promptly when problems arose. The decline in the relative role of general trading companies over time suggests that this comparative advantage was more valuable during the reconstruction and high growth era.

Restrictions on housing loans and consumer credit. An important feature of the Japanese financial system during the high growth era was the low level of lending to households for either consumer credit or housing finance. Data for 1965 show that the main source of credit for households was trade credit for consumer goods and employer loans for housing. Total loans to households amounted to 3% of all lending by financial institutions and corresponded to only 4% of GNP. Both housing finance and consumer credit started to increase in the 1970s, reaching 17% of GNP by 1975 and 29% by 1985 (**Tables 11 and 12**). Although these levels are lower than those prevailing in the United Kingdom and the United States, they are comparable to those found in many continental European countries. The increasing importance of lending to households and small firms is also shown in the changing structure of bank loans over time (**Table 13**). Lending to households rose from 6% of all bank loans in 1975 to 13% in 1990. At the same time, lending to small firms increased from 33% to 57%, while lending to large enterprises fell from 61% to 30%.

The discouragement of lending to households during the high growth era had two important results: first, it forced households to maintain a high rate of saving since lack of access to credit required accumulation of a higher downpayment for the purchase of consumer durables and houses; second, the increased household savings were available to be lent to industry and thus to finance from domestic sources the large investment funding needs of the high growth era. The financial assets and liabilities of the personal sector and sources and uses of funds for five year periods from 1961/65 through 1986/90 are shown in **Tables 14 and 15**. These tables cover both households and unincorporated enterprises and thus tend to exaggerate the size of financial assets of Japanese households. Nevertheless, the vast accumulation of financial assets over time is evident from the data. The willingness of Japanese households to invest in low-yielding financial assets, even when the Japanese yen was not appreciating, explains the absence of a capital flight problem for Japan. This is attributed to the success of the Japanese authorities in protecting the safety of bank deposits and other traditional financial assets not only from bank failures but also from the vagaries of inflation.

III. POLICY-BASED FINANCE

The role of policy-based finance in the Japanese financial system is exaggerated by some analysts and commentators and underrated by others. Policy-based finance was not large by the standards of most other developing countries but it was not insignificant either, especially during the reconstruction period of the early to mid-1950s. The changing objectives of policy-based finance are often overlooked, while the fact that policy-based finance was only one of several instruments of Japanese industrial policy is not always fully appreciated. Moreover, policy-based finance was supported by several other aspects of government policy on financial sector development. This section examines some basic aspects of the operation of policy-based finance in Japan. The aspects considered include the size and scope of policy-based finance; shifting focus; implementing institutions; sources of funding; level of subsidy; duration; design, appraisal and monitoring; and loan recovery and loan losses.

Size and scope of policy-based finance. The Japanese authorities established several policy-based financial institutions in the early 1950s as part of official policy to provide long-term funds for industrial investment, infrastructure, housing and other purposes. These institutions were mostly funded from the Fiscal Investment and Loan Program (FILP), which was based on the resources mobilized by postal savings, postal annuities and public pension systems and administered by the Trust Fund Bureau of the Ministry of Finance. Although policy-based finance for industry was clearly more important in relative terms in the 1950s and early 1960s, the total size and relative importance of policy-based finance for all sectors of economic activity increased more or less steadily over the years. This reflected the success of postal savings in mobilizing resources as well as the growing financing needs of housing and other socioeconomic sectors.

The total size of the FILP amounted to 4% of GNP in the 1950s, increased to 5% in the mid to late 1960s, fluctuated between 6.5% and 7.5% for most of the 1970s and 1980s, and exceeded 8% in the early 1990s. With regard to total lending by the financial system, policy-based finance accounted for 13% of the total in the mid-1950s, fell to 10% in the 1960s, but rose to 15% in the 1970s and 1980s, before declining again to 12% in the early 1990s.

Despite these generally low percentages, policy-based finance was an important source of funds for industrial investment in the early reconstruction and high growth era. Their share in new industrial equipment funds for all industrial sectors amounted to 31% in 1961, fell to 17% in 1971, to 13% in 1981 and to 7% in 1991. But the relative importance of FILP funds was much greater for the priority sectors as well as for declining industries. It amounted to around 60% of equipment fund loans for the electric power, ocean shipping and coal industries and 33% for the iron and steel sector in 1961. Adding the loans obtained from long-term credit banks, which were then directly and indirectly funded from the Trust Fund Bureau, public support for the priority sectors exceeded 80% of their total equipment fund loans (**Table 16**).

These data refer to outstanding balances that for 1961 also include the massive support provided in the first few years during the early reconstruction period. Looking at the new supply of industrial equipment funds over the two periods covering the late 1950s and early 1960s, it can be seen that new

GFI loans were large in relative quantitative terms for only a handful of industries, including marine transportation, coal mining, and agriculture. For manufacturing the reliance on new GFI loans for equipment funds was 11% of total new sources of funds in the late 1950s and dropped to 10% in the early 1960s (**Table 17**). Among manufacturing subsectors, the textile industry had a greater reliance on GFI loans than other subsectors, although the machinery subsector obtained around 9% of its funds from GFIs (**Table 18**). This is in line with the argument made by Japanese officials that the role of GFIs was to complement, rather than compete with, the private financial institutions. Their loans often had a pump priming effect, a feature that is confirmed by the detailed empirical study reported by Calomiris and Himmelberg (1994).

Shifting focus. Japanese industrial policy, and policy-based finance which was one of its main instruments, changed focus on an almost continuous basis. Early emphasis was placed on restoring and expanding productive capacity, especially in the so-called priority sectors that provided important inputs to all other types of activities. In the 1960s, the policy emphasis was shifted to modernizing and technological upgrading of industrial capacity in order to strengthen the international competitiveness of Japanese industry. The 1970s focused on restructuring of industrial capacity both at the company and industry levels. Finally, in the 1980s industrial policy promoted diversification, with particular emphasis on high technology industries.

These changes in emphasis are reflected in the distribution of loans by government credit agencies. The allocation of funds by the Japan Development Bank underwent considerable change. In 1961 50% of outstanding loans were for electric power, 27% for ocean shipping, 5% for coal mining and 9% for iron and steel. Priority sectors accounted thus for over 90% of all JDB lending. The share of priority industries declined to 63% by 1971 and to 44% in the 1980s. Lending for chemicals and machinery increased from 2.6% and 1.7% respectively in 1961 to 5.9% and 4.4% in 1971. The biggest rise was experienced by lending for other purposes, which covers lending for urban and regional development and for pollution control (**Table 19**).

The shifting focus of policy-based finance at the industrial level was accompanied by changes in the overall allocation of FILP funds (JDB/JERI 1994, Noguchi 1993). In the early 1950s, 29% of total FILP funds was allocated for lending to industry and technology, 11% for transportation and communications, 8% for small business, 11% for agriculture, and the rest for other purposes including regional development and housing. The share allocated to industry and technology fell to 14% in 1960, 6% in 1970 and 3% after 1975. Small business lending increased to 13% in 1960, 15% in 1970 and nearly 19% in 1980 before falling back to 16% in 1990. Housing absorbed a rising share of FILP funds, going from 5% in the early 1950s to 13% in 1960, 19% in 1970, 26% in 1980 and 30% in 1990. The share absorbed by housing and other lending for social purposes exceeded 50% in 1990 (**Table 20**).

Implementing institutions. One of the distinguishing features of policy-based finance in Japan was its reliance on government financial institutions for channelling funds to selected sectors. Commercial banks were not subjected to detailed directed credit programs, but only to some general guidance that favored lending to industry rather than to individuals, real estate or speculative ventures. Long-term credit banks complemented the activities of government financial institutions, especially in the 1950s and 1960s when they were more heavily dependent on Trust Fund Bureau funds. Government financial institutions in Japan were enjoined not to compete with private sector institutions but rather to provide complementary finance and in effect to offer a "pump priming" service that would induce private sector lenders to support expanding firms with good projects. Government financial institutions enjoyed extensive managerial autonomy in deciding which firms to support.

Sources of funding. Immediately after the war, policy-based loans that were provided by the Reconstruction Finance Bank (RFB) were effectively financed by central bank credit since the Bank of Japan was the main buyer of the bonds issued by the RFB. This fuelled inflationary pressures but after the implementation of the Dodge Stabilization Plan and the adoption of balanced budgets in the late 1940s, the Japanese authorities decided to fund policy-based loans from stable long-term savings. A major decision taken at the time was to avoid excessive reliance on overseas borrowings and overseas injection of capital. Thus, both access to foreign debt and foreign direct investment were discouraged. In addition, the view prevailed that as long as the banking system could provide safe and convenient savings facilities, the Japanese public would increase its financial savings, provided inflation was kept under control.

Accumulation of domestic financial savings was encouraged by the restrictions imposed on consumer credit and housing finance and by the high level of indirect taxes imposed on consumer durables that increased their cost and reduced their affordability. The achievement of high rates of economic growth combined with declining rates of fertility contributed to the attainment of very high rates of household saving that found its way in a massive build up of household financial assets in the form of savings deposits with all types of banks and especially with the postal savings bank. Postal savings were the main source of funds for policy-based loans.

Level of subsidy. The level of subsidy enjoyed by policy-based loans was low by international standards, although its true level is difficult to determine since policy-based loans were free from compensating balance requirements. JDB data on interest rates show that the spread between JDB rates and the long-term prime rate was as high as 3.5% in the mid-1950s, declined to 2.5% in the early 1960s and to less than 2% after the mid-1960s, reaching less than 1% in the 1980s. But if compensating balances added between 1% and 5% to the cost of commercial bank loans, then the true interest rate subsidy would have been much greater.

In many developing countries, preferential loans are extended at very low and fixed rates, which become highly negative because of the loss of monetary control by the authorities and the occurrence of very high rates of inflation. In Japan, policy-based loans were also extended at fixed rates. Highly negative rates of interest on policy-based loans were avoided only because the authorities succeeded in maintaining price stability. In fact, on a couple of occasions when inflation got out of hand, policy-based loans were offered at substantially negative rates in real terms.

Duration. One of the arguments in favor of policy-based finance is its ability to overcome the external finance constraint faced by expanding firms. This constraint is more acute in raising term finance as firms with a limited track record find it difficult to obtain long-term loans to finance their investment in plant and machinery and other fixed assets. Modern corporate finance highlights the preference of lenders for providing short-term loans to industrial firms with the possibility of regular renewal based on performance. Short-term debt gives greater control over the use of credit and over the performance and behavior of borrowers than long-term finance. However, firms investing in fixed assets are often reluctant to finance their investment plans with short-term loans and thus be exposed to the whims and vagaries of the lending policies of their banks. Even in the US, the UK and continental European countries the corporate sector has shown a preference for raising long-term funds to finance its long-term capital needs. Hence, the growth of the long-term corporate bond market in the US, the development of term facilities in the eurocurrency markets, and the use of term bank loans in Germany and other European countries.

In Japan, policy-based finance provided term loans to industry for the financing of equipment and other fixed assets, especially at a time when the corporate bond market was unable to fill this need. The equipment fund loans provided by the Japan Development Bank had an average remaining term to maturity of 12.2 years in 1955. This declined to 11.3 years in 1965 but compared with 3.3 and 4.8 years respectively for the three private long-term credit banks and 1.8 and 2.9 years respectively for equipment fund loans provided by city banks (JDB/JERI 1994).

Design, Appraisal and Monitoring. Government financial institutions and the private long-term credit banks played a very important part in screening potential borrowers and in appraising the creditworthiness of the industrial projects for which policy-based finance was sought. Loan approval was preceded by careful study of the design features of different projects and by independent and in-depth appraisal of its economic and financial prospects. Once a project was approved, disbursement of funds was based on detailed documentation and progress reports. After a loan was fully drawn, monitoring of company performance was then shared with the commercial banks that were the main providers of short-term finance. Thus, in the terminology developed by Aoki (1994), government financial institutions (and long-term credit banks) specialized more in ex ante monitoring while commercial banks focused more on interim monitoring. Ex post monitoring, which is relevant only in the case of firms facing financial difficulties and involves rescue and restructuring operations, was normally initiated by leading city banks or the Industrial Bank of Japan, acting as main banks for particular firms. Government financial institutions did not play leading parts in such monitoring.

Loan Recovery and Loan Losses. One of the most important characteristics of policy-based finance in Japan, a feature that sets it apart from the experience of most other developing countries, is the very low level of loan losses. Partly because of the stricter emphasis on good project design, independent credit appraisal and close monitoring and partly because of the achievement of very high growth rates over a persistent period, loan losses in Japan were unusually low. The Japan Development Bank reported losses of less than 0.1%, which were several times lower than those of commercial banks. To some extent, this reflected the care taken in screening borrowers. However, the very good record of loan recovery also reflected the collateral security taken by JDB and in part also the absorption by the general budget of losses from lending to declining industries, such as coal mining.

Industrial Impact of Policy-Based Finance. Empirically assessing the impact of policy-based finance is not easy. Simple correlation of sectoral growth with sectoral credit support would not be a meaningful test of the effectiveness and efficacy of policy-based finance if the objective of credit assistance was not exclusively growth promoting but also included supporting declining sectors in order to minimize regional economic distortions (e.g., the case of coal mining and shipbuilding in Japan)[3]. A meaningful empirical examination would require a careful compilation of relevant firm-level economic data that could permit distinguishing the effects oı credit policy from other policies and could also allow a direct test of the effectiveness of the firm-level allocation of credit. Such data are not readily available. Econometric studies are forced to use accounting data that often leave too much to be desired. Moreover, it is impossible to test against a counterfactual, i.e., what would have happened in the absence of government credit policies. The most empirical tests can achieve is to establish significant correlations that would lend support to one or other argument or claim.

Two empirical studies have been undertaken recently that lend support to the argument that Japanese policy-based finance was effective in meeting its objectives of "pump priming" and "crowding in" private credit for growing firms in industries that benefit from dynamic comparative advantage. Horiuchi and Sui (1993) compared the investment behavior of "medium-size" firms receiving JDB assistance with other firms of similar size over the period 1964-1988. They found that the year of initial JDB lending was associated with increased investment and also that within three years firms began to move away from reliance on JDB lending to rely more on private banks. Horiuchi and Sui also found that directed credit was more effective for firms that did not have main bank affiliations.

Calomiris and Himmelberg (1994) examined the effect of policy-based finance over the period 1963-1991 for the machine tool industry, an industry selected for its high potential for spillover effects due to technological innovation and learning. Calomiris and Himmelberg found that there was no capture of government funds either at the industry or firm level. Directed credit was usually provided to a firm only once and it lasted for a brief period. They also found that government credit was provided to growing, large, capital intensive firms with higher investment rates. Moreover, directed credit appeared to bolster the positive characteristics of recipient firms and thus to reinforce the process of consolidation, investment and technological change of the firms to which government credit was targeted. Government credit also had a significant, positive impact on investment and was positively correlated with private credit[4].

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3 In this respect, the findings of Beason and Weinstein (1993), who claim that by supporting declining industries directed credit programs retarded growth, would not be relevant. Their work implicitly assumes that allowing a collapse of coal mining (and other declining industries) that might have happened in the absence of government support would not have affected the average growth rate of the Japanese economy, despite the massive regional economic distortions such collapse would have entailed.

4 The results reported in Calomiris and Himmelberg (1994) were weaker than those reported in an earlier paper (Calomiris and Himmelberg 1993) that focused on the period 1982-91. The main reason for the weaker results seems to be the use of a different methodology in conducting the empirical tests. But another reason may a selection bias in the larger sample covering the longer period as firms that exited in the 1960s and 1970s are not included in the dataset that basically includes surviving firms. If exiting firms were low-investment, poor-performance firms while surviving firms were more likely to receive government credit, then the effect of government credit would be under-estimated. In addition, accounting data for the earlier years are probably less reliable.

The studies using firm-level data provide support to the oft-made claim of Japanese officials that policy-based finance made a positive contribution to industrialization and economic development. Given the small relative size of the policy-based industrial funds, which even in the 1950s amounted to less than 5% of the total funds mobilized by the financial system, but declined over time to less than 1% in the 1970s and 1980s, no claim can be made that policy-based finance was the main factor behind Japan's economic success. The studies do not show that the required finance could not have been obtained from private sources, but they suggest that policy-based finance acted as a catalyst for financing particular sectors or firms, supporting the argument of Japanese officials with regard to the "pump-priming" function and "crowding in" effect of policy-based finance.

IV. THE ROLE OF CREDIBLE VISIONS

As already noted, a very important factor behind the success of policy-based finance in Japan was the ability of government agencies to implement policy, appraise projects, monitor performance and ensure compliance. The fact that policies were designed in extensive and effective consultations with the private sector facilitated their acceptance and stimulated cooperation in their implementation. But an important factor was also the existence of an official vision of the aims and instruments of industrial policy that enjoyed extensive support from the private sector and provided a framework for designing and implementing new measures and for stimulating effective private sector response. Effective visions implied not only credibility, consistency and continuity but also flexibility and adaptability to changing circumstances. The effectiveness of the official vision increased with the positive outcomes of early measures, which reinforced its credibility and acceptability.

Industrialization. A very lucid exposition of what may be described as the Japanese vision for industrialization was made in the statement by Ojimi (Vice Minister of MITI) in 1970 and included in the OECD study on the Industrial Policy of Japan that was published in 1972. According to Ojimi (1972):

> "The Ministry of International Trade and Industry decided to establish in Japan industries which require intensive employment of capital and technology, industries that in consideration of comparative cost of production should be the most inappropriate for Japan, industries such as steel, oil refining, petro-chemicals, automobiles, aircraft, industrial machinery of all sorts, and electronics, including electronic computers. From a short-run static viewpoint, encouragement of such industries would seem to conflict with economic rationalism. But, from a long-range viewpoint, these are precisely the industries where income elasticity of demand is high, technological progress is rapid, and labor productivity rises fast. It was clear that without these industries it would be difficult to employ a population of 100 million and raise their standard of living to that of Europe and America with light industry alone; whether right or wrong, Japan had to have these heavy and chemical industries."

The Ojimi statement did not provide any documentation in support of the claimed orientation of industrial policy. In fact, some authors have implied an ex post rationalization on the part of MITI by describing the statement as an authoritative retrospective statement of MITI's accomplishments. However, in his seminal work on the Japanese miracle, Johnson (1982) provided detailed references to the evolution of industrial policy[5]. According to Johnson, the first plan to develop a comprehensive approach to industrialization and exports was the plan entitled "On Making Our Economy Independent". which was prepared as early as 1953 when Okano (a former president of Sanwa Bank) was MITI Minister. The plan, which became known as the Okano Plan, outlined a new effort to expand exports, called for closer ties with South East Asian countries and for a rationalization of the tax system, advocated a vigorous program to develop import-substituting industries, and underlined the importance of expanding heavy and chemical industries that had a much higher income elasticity of demand than Japan's traditional light industries.

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5 This is also strongly emphasized in work by Yotopoulos (1991).

The Okano Plan was initially rejected but its ideas were incorporated in subsequent statements of strategy, such as MITI's 1954 paper entitled "Outline of the New International Trade and Industry Policy".

The Okano ideas were later supplemented with the notion of complementarity between exports and domestic sales as means for promoting large scale and lowering costs. As stated in Johnson (1982, p. 229), the idea was that[6]:

> "MITI should promote both exports and domestic sales. When problems in the international balance of payments arose, the government could curtail domestic demand and promote exports; when the problems of paying for imported raw materials eased, the focus should be on enlarging sales at home. If this could be achieved, Japan's factories could keep operating throughout all phases of the business cycle."

Another example of a successful vision was the "income doubling" plan that was adopted in the early 1960s. This is well documented in the JDB/JERI study (JDB/JERI 1994). The plan was characterized by tremendous success and overshooting of most targets, although there were substantial costs in terms of pollution, congestion and other aspects of the quality of life. In fact, the plan itself and the response to its side effects represent an example of effective shifting of focus and flexibility in the formulation of official visions and the design and implementation of policies.

Financial Sector Development. The adoption of credible visions also had implications for policy-based finance and the development of the financial sector. Credit policies are only one of the industrial policy instruments. Although Japanese officials emphasize the superiority of policy-based finance over direct budget subsidies and grants in promoting industrialization, Japan made extensive use of accelerated depreciation allowances and tax-free special reserves. These allowed profitable and successful firms in the promoted sectors to retain and reinvest a larger part of their profits than firms in nontargeted sectors. Particularly important because of its link with the overall strategy of export promotion and export push was the special reserve that was linked to past export performance. These noncredit-based incentives reinforced the impact of credit policies and helped to stress the credibility of the programs.

Another aspect of the Japanese official vision regarded the somewhat low priority assigned to the development of the financial sector. Most statements of Japanese officials implied that industrialization and economic growth took precedence over the development of an efficient and modern financial sector.

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[6] This idea was attributed to Ishibashi and was implemented with a vengeance by Ikeda. Johnson makes much of the role of some influential MITI ministers, especially Ishibashi and Ikeda, who later in their career became prime ministers and adopted an activist approach in industrial affairs. Tanzan Ishibashi was MITI minister between October 1954 and December 1956 and served as prime minister between December 1956 and February 1957. Hayato Ikeda was MITI minister on several occasions (February to April 1950, October to November 1952, June 1959 to July 1960), finance minister between December 1956 and June 1959, and served as prime minister between July 1960 and November 1964 when the "income doubling" plan was adopted. Other prime ministers who served as MITI ministers include Eisaku Sato, Kiichi Miyazawa, Kakuei Tanaka and Yasuhiro Nakasone.

To be sure, the authorities were committed to ensure the safety of deposits and the solvency of financial intermediaries but were less concerned to allow banks and other financial intermediaries to innovate and develop new services aiming at reducing the cost of financial intermediation. The latter was controlled by the authorities and was set at levels that ensured adequate profitability for the banks but not excessive rents. The benefits from repressed interest rates on small savings were passed on to the corporate sector as were the benefits from tax allowances. Dividends by both financial intermediaries and nonfinancial entities were kept under control. Although savers were penalized through low interest and dividend income on their financial assets, they were the beneficiaries of economic expansion, higher wages, and more secure employment. In addition, thrift was promoted by educational campaigns.

This approach to the financial sector fitted well with the strategy and global vision described above. Japanese officials have often claimed that they relied on indirect finance and credit policies because of the underdevelopment of securities markets, but over the first thirty years of the postwar era they applied measures that prevented the growth and maturation of these markets. Controls on interest rates on bank loans and deposits were accompanied by branching restrictions, merger controls, and administrative guidance. Both consumer credit and housing finance were discouraged, at least until the mid-1970s. Although commercial banks were not subject to directed credit programs, the use of administrative guidance and their close links with industrial groups ensured that they provided substantial support to industrial companies, especially in terms of working capital funds. The banks were also encouraged to become members of keiretsu as a result of both the designated institutions approach of the war period and the increased limits for cross shareholdings that were applied in the early 1960s.

Reliance on a Competitive Private Sector. Unlike many other developing countries, the Japanese official vision did not place undue importance on the public ownership of industrial enterprises or even of financial institutions. Although some utilities were under public ownership until the recent wave of privatizations, the Japanese economic structure was remarkable for the low level of state ownership. Official policy favored the establishment and development of large competitive industrial groups that were under Japanese ownership and management. Recourse to foreign debt and equity capital was discouraged and even joint ventures played a small part in Japanese industrial development. A special effort was made to promote the emergence of rival large groups with sufficiently large scale to ensure achievement of satisfactory economies of scale and international competitiveness. To this end, official policy supported the creation of keiretsu groups and the close links between industrial groups and financial institutions, even though commercial banks were prevented from becoming universal banks in the sense of German banks. MITI played an important part in organizing cartels to achieve a smooth reduction in productive capacity when Japanese industry was faced with declining demand for their products or was suffering from the build-up of excessive capacity.

Private ownership was also preponderant in the financial sector. Apart from the government financial institutions that were created to fill perceived market gaps in the provision of finance to specific economic sectors, most banks, insurance companies and securities firms were privately owned, either through joint stock companies or through cooperatives owned by their members. The latter were particularly important among farmers, artisans, and small traders. Private financial institutions were not forced to lend to particular sectors or companies while even government financial institutions were generally free to make their lending decisions on economic criteria and enjoyed managerial autonomy and freedom from political interference.

Consultation. The existence of a coherent and credible vision did not imply that it was inspired and imposed by government bureaucrats on an unwilling private sector. On the contrary, most studies of Japanese and East Asian finance and industrial policy emphasize the close links and extensive consultation between bureaucrats and representatives of the private sector[7]. There was extensive reliance on various deliberative councils and constant exchange of information and ideas between government and the business sector. Participatory government and a close partnership between government, financial institutions and industrial firms helped overcome pervasive market imperfections (Cho and Hellmann 1993).

The existence of a coherent and credible vision also lent credibility to the consultation processes and deliberative councils. Many other countries around the world tried to promote close consultation between government and the private sector but, in the absence of a coherent vision, such exchanges became either forums for special pleading or ineffective talk shops.

A very important contribution of Japanese government agencies was the compilation and dissemination of information about longer term sectoral prospects, an activity that is not readily undertaken by the private sector and private securities markets where much greater emphasis is placed on collecting data with short-term payoffs (e.g. price discovery in futures markets). Again the existence of a credible vision and the carrot and stick approach that was used to encourage cooperation resulted in the collection and analysis of broadly reliable data about particular industrial sectors[8].

Proof that the strategic vision was not imposed from above is provided in Japan by the few examples when bureaucrats were perceived to have gone too far and the business sector fought successfully against the adoption of particular laws. Perhaps the best example was provided by the defeat of the 1963 draft law on Special Measures for the Promotion of Designated Industries, which was rejected because of opposition to granting explicit draconian controls to MITI officials (Tsuruta 1988, Johnson 1982).

Long-Run Cost. The almost single-minded pursuit of rapid industrialization and economic growth, especially under the income doubling plan, was not cost free. Several types of cost were incurred. First, the policy of rapid industrialization led in several instances to the building of capacity that turned out to be excessive when international circumstances changed (Tsuruta 1988). This required policies of

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[7] Ohmae (1982) went further, arguing that there was extensive cooperation and cohesion between corporate managers and workers. He pointed out that in Japan a corporation was seen as an assembly of people, each known as a member (not an employee). He also stressed the importance of primary education and the role of the government as coach, not captain.

[8] However, it should also be noted that some Japanese bureaucrats and scholars have argued that the deliberative councils were not very effective and the information collected and publicized was persistently off the mark (Miwa 1988, Tsukuda 1993).

adjustment and capacity reduction which often meant the dismantling of relatively modern plant and equipment. This approach was facilitated by the very generous depreciation policies that allowed companies, especially export-oriented ones, to set up large reserves. The best known example of this cost of excess capacity is found in the shipbuilding industry but other sectors also suffered from similar problems and required coordinated reductions in capacity.

The second cost of the policy of rapid industrialization was the pollution of the environment. Many commentators have drawn attention to the serious pollution of air and water that happened during the high growth era (Yamamura 1993). However, since the early 1970s Japanese official policy has supported efforts to improve the quality of the environment and the quality of life more generally and this has been reflected in the change in the direction of loans granted for FILP financed projects.

The third type of cost was the neglect of housing and other social infrastructure. The relatively low quality of housing in Japan is partly due to the scarcity of land and the overcrowded living conditions, especially compared to the United States where land and space are in much greater supply. But at least until the mid-1970s official policy generally neglected the need to promote more spacious and comfortable accommodation for middle income families. Although great support has been provided in recent years to the housing sector through government financial institutions and other means, the quality of housing continues to be low and its cost high for the level of real per capita income that Japan has achieved through its rapid industrialization and economic growth policies.

The fourth type of cost was the relatively slow development of the financial sector. Although, as already emphasized above, in a quantitative sense, the Japanese system is highly advanced, in qualitative terms the system has been slow to adopt new financing techniques and practices. When financial markets were significantly liberalized in the 1980s, they lacked the experience and expertise to handle their new freedoms constructively and prudently and the result was the bubble economy of the late 1980s and the financial losses and crisis that followed the bursting of that bubble. To be sure, the financial systems of most Anglo-American countries (including the United States) as well as Scandinavian countries also suffered from major excesses and crises during the same period. But the situation in Japan seems to have gone farther and to have involved bigger and more persistent mistakes than in most of these other countries. Thus, the financial losses of the late 1980s and early 1990s could be seen as a long-term cost of the industrialization policies pursued in the 1960s and 1970s. Although the benefits of that policy may still exceed the costs, the latter are real and may require a radical adjustment of policies, not only in order to deal with them but also in order to prevent their recurrence.

The Blurring of the Vision. Although Japanese policy has been adapted over the years to cope with these challenges, the momentum acquired by the pro-industrialization forces has created a certain imbalance in the Japanese economy that is the source of almost continuous friction with other countries. The large and persistent trade and current account surpluses and the accompanying large outflows of long-term capital have given rise to concerns about the domination of particular markets by Japanese interests.

The importance of the vision of Ishibashi and Ikeda, which was emphasized by Johnson, can now be seen more clearly. That vision was based on the complementarity between exports and domestic sales in ensuring large scale and low costs. Of course, as many commentators have observed (Patrick 1986, Johnson 1982), it is much easier to develop and implement a clear and credible vision when an economy is catching up economically and technologically with other more advanced countries than when it is leading the world or is on a par with other world leaders. Yet the old vision is no longer relevant, now that Japan is a major industrial power and a highly successful and efficient exporter. What is probably needed is a new vision that focuses on the need to develop further the social infrastructure of the country and bring it to a level that is commensurate with its high level of income. But as markets are now much more complex and sophisticated, the new vision would probably require much less selective intervention and could be limited to ensuring a redirection of effort away from industry and industrial exports and toward social infrastructure and services as well as toward the development of a more efficient financial system.

V. SUMMARY AND CONCLUSIONS

Japanese financial and industrial policy had one overriding objective over most of the postwar period: to promote rapid industrialization and accelerate economic development in order to catch up with the more economically and technologically advanced countries in Europe and North America. To this end, industrialization took priority over financial sector development. In fact, the financial sector was tightly regulated to ensure an adequate supply of industrial funds at reasonable cost.

Financial regulations that affected the pace and direction of financial sector development included a fragmentation and segmentation of the financial system, merger and branching controls, interest rate ceilings, tight regulation of bond and equity issues, foreign exchange controls, including restrictions on foreign direct investment and, last but by no means least, restrictions on consumer credit and housing finance. In addition, government financial institutions and policy-based finance played a significant part in channeling funds to priority sectors or activities.

The low interest rate ceilings on consumer deposits and the restrictions on consumer credit and housing finance, coupled with the foreign exchange controls that prevented investment in overseas assets, combined to stimulate the accumulation of household financial assets. The latter was facilitated by the role played by the postal savings system, which offered convenience and proximity that was denied to the large commercial banks by the branching controls. In addition, the success of the Japanese authorities in preventing any losses to depositors from bank failures as well as their success in keeping inflation low and thus avoiding an erosion of the real value of household deposits bolstered the confidence of the Japanese public in the safety of their financial assets and contributed to the continuing high flow of financial saving despite the generally low returns.

The Japanese authorities also encouraged the emergence of industrial groups and the main bank system as a means for keeping Japanese industry under local ownership and control and for facilitating the exchange of information. The authorities also established specialized government financial institutions that channeled funds collected from the postal savings system to firms in high priority sectors, to firms in modernizing and restructuring sectors, to exporting firms and to smaller firms that had no links with the large industrial groups. Both the main bank system and government financial institutions were used as a substitute for some of the functions that were played by the capital markets in countries with more developed and sophisticated financial systems. A considerable advantage of the Japanese approach was the stricter monitoring of the performance of borrowers it implied. The Japanese approach also avoided the instability and short-term orientation that capital markets could impart on the economy.

Policy-based finance was only one of several industrial policy instruments used by the Japanese authorities. Other instruments included tariffs, direct grants and, especially, tax-free reserves for depreciation and other purposes. But policy-based finance played a crucial part in overcoming the external finance constraint facing new or expanding firms, especially those with no links with industrial groups and limited support from the main bank system.

Most developing countries operated directed credit programs but few implemented policy-based finance in an efficient and effective way. In Japan, policy-based finance had a narrow focus and its objectives evolved with the changing industrial circumstances of the country. Early support for high priority sectors gave way first to equipment modernization and then to industrial restructuring and more recently to industrial diversification. Interest subsidies were kept low, partly because of the success in keeping inflation low.

But the biggest difference with most developing countries was in the management of the programs. A distinguishing feature of the Japanese experience was the reliance on government financial institutions for implementing policy-based finance. Commercial banks were not subjected to directed credit programs. Moreover, both commercial banks and government financial institutions enjoyed extensive managerial autonomy in making lending decisions on economic criteria and in deciding which firms to support. Monitoring of borrowers was very effective and loan losses were kept to very low levels.

Throughout the postwar period, industrialization, financial sector development and policy-based finance were guided by a credible official vision that emphasized the development of industries with dynamic comparative advantage, high income elasticity, rapid technological progress and rising productivity. The official vision also emphasized the complementarity between export and domestic sales in helping Japanese industry achieve large scale and low, internationally competitive, costs. The vision did not place undue importance on the public ownership of industrial enterprises or financial institutions. On the contrary, it relied on a competitive, efficient and dynamic private sector.

The vision itself was not imposed from above but was developed after extensive consultation with representatives of the private sector. Even so, the almost single-minded pursuit of rapid industrialization had several long-run costs in the form of frequent build-up of excess capacity, serious pollution of the environment, neglect of housing and social infrastructure, and relative underdevelopment of the financial sector. The failure to promote a more sophisticated financial system was reflected in the mistakes and misjudgments of the mid-1980s that fuelled the bubble economy of the late 1980s and led to substantial financial losses following the bursting of that bubble.

Now that Japan has succeeded in catching up with the advanced countries of Europe and North America, the old vision is no longer relevant. What is probably needed is a new vision that will develop social infrastructure further and will ensure a redirection of effort away from industry and industrial exports. As markets are now much more complex and sophisticated, the new vision would probably require less selective intervention and a greater emphasis on developing more efficient financial markets that would facilitate the required reallocation of resources.

For other developing countries, the lessons of Japan lie not so much in the similarities that may exist between Japanese industrial and financial policies and the policies pursued in different countries but rather in the large and important differences in implementing these policies and especially in managing the policies of mild financial repression and policy-based finance that characterized Japan during the high growth era.

There are many developing countries around the world that face strong pressures for growth policies that would emphasize industrialization and would be based on the principle of shared growth. This would imply the creation of economically sustainable jobs to absorb large and growing numbers of young and older workers. In several countries, employment creation would appear to be of paramount importance for their medium-term economic and political stability. In other countries, problems of job creation are more concentrated in particular regions (e.g. the rural areas of Latin American countries). The experience of Japan and other East Asian countries has many relevant lessons for these countries. Arguments that suggest that the Japanese experience cannot be replicated are too pessimistic and disregard the impact and influence of Japanese policies on other high performing East Asian countries.

However, as emphasized by Page (1994) and Leipziger and Thomas (1994), what is generally required by developing countries is pragmatic policymaking that shows flexibility and adaptability to changing circumstances. The main role of policymakers is to develop a long-term vision that is economically credible and is shared by key participants in the growth process. The vision should emphasize the importance of stable macroeconomic and financial policies, fiscal discipline and moderate inflation, high rates of saving and investment, outward orientation and export development, reliance on a competitive private sector, close consultation between government officials and private sector representatives, and a major effort on education and developing labor skills. Great reliance should also be placed on inward foreign direct investment to benefit from the supply of foreign capital and transfer of technology.

Despite the growth of global financial markets, a policy of mild financial repression favoring industrial investment and discouraging (frivolous) consumption would still be appropriate. In addition, policy-based finance could still be used to support job-creating small firms or export activities, although care should be taken to minimize the share of resources absorbed by inefficient, inward-oriented state-owned enterprises (the basic ingredients of successful credit policies are summarized in Vittas and Cho 1994). Implementation of these financial policies would require the creation of strong economic ministries and financial institutions that enjoy managerial autonomy and are able to take decisions on economic criteria but are accountable for their performance. Special emphasis would also need to be placed on improving the appraisal of new projects and the performance monitoring of different firms.

Unfortunately, many developing countries do not appear to have the political will and institutional capacity to develop and implement effectively such outward-oriented, growth-promoting policies. It is mainly for this reason that replicating the Japanese and East Asian experience in other parts of the world is often perceived as infeasible. What is needed is better government that can help mitigate, if not overcome, the well-known imperfections and failures of financial markets (World Bank 1989).

Table 1

Deposits, Savings, Certificates of Deposits and Bank Debentures
(trillion yen)

	TOTAL	Banks	Trust Fund Bureau	Insur Comp	Agric Coop	Other
1945	0.3	0.1	0.05	0.01	0.02	0.01
1950	1.8	1.2	0.2	0.06	0.1	0.05
1960	18.8	13.2	1.9	0.9	0.8	0.4
1970	107.7	67.2	13.7	6.6	6.2	3.5
1980	499.3	272.4	97.0	30.9	27.5	16.5
1988	1094.3	559.7	209.3	108.5	47.3	36.8

Notes: Totals include overlapping accounts, i.e., inter-financial institutions deposits.

Banks include city banks, regional banks, trust banks, long-term credit banks, sogo banks and shinkin banks.

Trust fund bureau includes postal savings.

Other includes the Shokochukin and Norinchukin banks.

The series is discontinued after 1988.

Source: Bank of Japan, *Economic Statistics Annual*, 1989 (pp. 163-166) and 1988 (pp 161-164).

Table 2

Size of the Financial Sector relative to GNP

	1960	1970	1980	1988
TOTAL (tn yen)	18.8	107.7	499.3	1094.3
GNP (tn yen)	16.7	75.2	245.4	379.2
% GNP	113	143	203	289

Source: Bank of Japan, *Economic Statistics Annual*, 1991 p. 10 and Table 1.

Table 3

City Bank Domestic Branch Networks

	1960		1970		1980		1990
Sanwa	186	+18	204	+20	224	+37	261
Fuji	182	+22	204	+20	224	+50	274
Mitsubishi	158	+24	182	+21	203	+46	249
Sumitomo	137	+39	176	+26	202	+123	325
Mitsui	100	+45	145	+16	161	+33	194
Nihon Kangyo	118	+25	143				
Dai Ichi Kangyo				+30	318	+36	344
Dai Ichi	97	+48	145				

Source: Aoki, Patrick and Sheard (1994).

Table 4

Branch Networks

	1953	1960	1970	1980	1990
City banks	1821	1791	2409	2714	3474
Regional banks	3602	3822	4335	5675	7456
Sogo banks	2089	2485	2844	3846	4708
Shinkin banks	2045	2698	3871	5637	8122
All banks	9643	10221	13755	18242	24313
Agric Coops	12882	11876	17423	17179	16218
Post offices	15419	15778	20551	23005	24107

Source: Bank of Japan, Economic Statistics Annual (various issues)

Table 5

Trust Fund Bureau and Postal Savings Balances
(trillion yen)

	Trust Fund Bureau	Share in Total	Postal Savings
1945	0.066	17.5%	0.047
1950	0.256	8.6%	0.155
1960	2.1	6.0%	1.1
1970	14.6	7.2%	7.7
1980	100.1	12.4%	62.0
1990	244.9	11.5%*	133.7

Notes: Total includes deposits, savings, certificates of deposits and bank debentures given in Table 1.

* Refers to share in 1988.

Source: Bank of Japan, *Economic Statistics Annual*, 1991 (pp. 101 and 104) and 1988 (pp. 99 and 102).

Table 6

Loans and Discounts of Financial Institutions (trillion yen)

	Total	Banks	Trust Fund Bureau	Govt Fin Inst	Insur Comp	Agric Coop	Other
1945	0.1	0.1	..	..	..	..	..
1950	1.5	1.1	0.1	0.1	0.01	0.03	0.05
1960	15.9	10.6	1.5	1.5	0.5	0.3	0.4
1970	91.1	56.5	10.3	7.8	4.0	3.1	2.8
1980	385.5	201.8	76.2	42.0	16.8	11.1	11.5
1988	779.7	442.8	145.8	76.6	36.7	12.7	20.5

Notes: Total includes overlapping accounts, i.e., inter-financial institutions loans.

Banks include city banks, regional banks, trust banks, long-term credit banks, sogo banks and shinkin banks.

Other includes the Shokochukin and Norinchukin banks.

The series is discontinued after 1988.

Source: Bank of Japan, *Economic Statistics Annual*, 1989 (pp. 167-168) and 1988 (pp. 165-166).

Table 7

Securities Holdings of Financial Institutions (trillion yen)

	Total	Banks	Trust Fund Bureau	Gov Fin Inst	Insur Comp	Agric Coop	Other
1945	0.14	0.06	0.048	--	..	..	..
1950	0.27	0.14	0.078	..	..	..	..
1960	3.2	2.2	0.4	..	0.3	..	0.06
1970	17.8	9.7	3.4	0.03	1.7	0.2	0.6
1980	119.8	62.9	20.8	0.3	10.2	2.0	5.9
1988	338.6	160.3	62.4	0.7	51.3	2.0	12.6

Notes: Total includes overlapping accounts, i.e., certificates and bank debentures held by other financial institutions.

Banks include city banks, regional banks, trust banks, long-term credit banks, sogo banks and shinkin banks.

Other includes the Shokochukin and Norinchukin banks.

The series is discontinued after 1988.

Source: Bank of Japan, *Economic Statistics Annual*, 1989 (pp. 169-70) and 1988 (pp. 167-168).

Table 8

Loans and Discounts of Government Financial Institutions
(billion yen)

	Total	JDB	SBFC	PFC	EXIM	AFFFC	HLC
1955	685	374	45	48	39	82	85
1960	1519	538	148	125	125	195	202
1970	7836	1705	895	709	1522	955	1070
1980	41958	5018	4351	4024	5077	3706	12733
1990	83722*	9473	7309	7096	6252	5324	40303

Notes: JDB: Japan Development Bank.
SBFC: Small Business Finance Corporation.
PFC: People's Finance Corporation.
EXIM: Export Import Bank of Japan.
AFFFC: Agriculture Fisheries and Forestry Finance Corporation.
HLC: Housing Loan Corporation.
* refers to 1989.

Source: Bank of Japan, *Economic Statistics Annual*, various issues.

Table 9

Financial Assets and Liabilities of Corporate Sector (billion yen)

	1955/12	1960/12	1971/3	1981/3	1991/3
Total assets	na	12847	83122	276993	668961
Cash	na	150	442	1492	3137
Demand deposits	784	1687	9868	30563	44344
Time/savings dep	775	2251	14525	47235	134118
Securities	na	1018	4039	17688	156850
Trust accounts	na	210	1322	5390	38700
Trade credit	2566	7323	51765	163813	255030
Liabilities					
PFI loans	3893	10135	56315	174266	435397
GFI loans	506	6181	21189	63759	63759
Domestic bonds	227	693	3151	10307	39715
Foreign bonds	--	--	--	1768	32514
Stocks	964	2827	8985	16977	64989
Trade credit	1973	5646	40580	132789	196657

Source: Bank of Japan, *Economic Statistics Annual*, various issues.

Table 10

Flow of Funds of Corporate Sector (billion yen)

Sources of Funds

	Loans	(PFI)	(GFI)	Stocks	Domest Bonds	Foreign Bonds	Trade Credit
1961/65	17126	15746	1380	3334	1056	--	8255
1966/70	33311	29882	3430	2491	1358	--	20476
1971/75	73956	66657	7299	5307	3650	407	37600
1976/80	62756	53832	8743	6178	3505	999	38406
1981/85	101864	93571	8293	8943	3458	6812	19362
1986/90	182406	163045	19361	24152	10496	26001	62325

Uses of Funds

	Cash	Demand	Time Save	Secur	Trust	Trade Credit
1961/65	121	3359	4437	1842	356	10574
1966/70	199	5011	7474	1448	655	27024
1971/75	574	14129	14974	4427	1832	46590
1976/80	477	6916	17856	7209	2840	48603
1981/85	521	9769	31454	10433	4933	30752
1986/90	3946	15281	58267	12334	30320	82789

Note: Except for 1961/65, all figures are for fiscal years.

Source: Bank of Japan, *Economic Statistics Annual*, various issues.

Table 11

New Loans to Personal Sector
(billion yen)

	1965	1970	1975	1980	1984	1985
Housing loans	64	1010	5137	9673	10402	11886
Consumer loans	1016	2929	7261	20529	31610	34706
Loans	243	777	1890	9429	14706	17866
Installment Credit	88	600	1446	3548	6840	
Finance Co.	1	8	342	2118	2788	2486
PFIs	87	592	1104	1430	4052	
Non-installment Credit	155	177	444	5881	7866	
Pawn Shop	155	177	204			
Post Office			240			
Sales Credit	773	2152	5371	11100	16904	16840
Installment		2020	4751	10083	14435	9769
Non-installment		132	620	1017	2469	7071

Source: *Shohisha Shinyou Toukei* (Consumer Credit Statistics), 1978 (for the data of 1965), 1981 (for the data of 1970 and 1975), and 1983/1985/1986 (for 1980 and 1984), and 1988 (for 1985).

Table 12

Outstanding Loans to Personal Sector
(billion yen)

	1965	1970	1975	1980	1985
Housing Loans	740	4365	21850	44313	68532
GFIs	286	886	3476		
PFIs	92	1858	12669		
Employer Loans	362	1621	5705		
Consumer Loans	563	1705	4083	15516	27395
Loans	103	584	1407	9161	16698
Finance Co.	1	5	215	1705	1925
PFIs	50	520	1054	6818	12401
Pawn Shop	52	59	68		
Post Office			70		
Sales Credit	460	1121	2676	6356	10697
GNP	32813	73046	151797	245163	325371
Housing+Consumer/GNP					
	4.0%	8.3%	17.1%	24.4%	29.5%
Housing+Consumer/TOTAL loans and discounts (Table 6)					
	3.2%	6.7%	11.7%	15.5%	15.9%

Source: *Shohisha Shinyou Toukei* (Consumer Credit Statistics), 1978 and 1988 and Bank of Japan, *Economic Statistical Annual*, various issues.

Table 13

Composition of Outstanding Bank Loans

(Banking accounts, trillion yen)

	Total	Large Firms	Small Firms	Individuals
All loans				
1975	88.0	53.4	29.3	5.2
		60.7%	33.3%	5.9%
1980	134.6	66.1	55.7	12.8
		49.1%	41.4%	9.5%
1985	222.8	103.6	103.1	16.0
		46.5%	46.3%	7.2%
1990	376.0	111.5	214.7	49.8
		29.6%	57.1%	13.3%
Equipment loans				
1975	23.7	12.6	6.3	4.8
		53.1%	26.5%	20.3%
1980	36.7	13.0	11.6	12.1
		35.4%	31.6%	33.0%
1985	53.5	17.1	21.1	15.3
		32.0%	39.5%	28.6%
1990	130.8	24.8	67.9	38.2
		18.9%	51.9%	29.2%

Note: Small firms are those with capital of less than 100 million yen (30 million yen for wholesale and 10 million yen for retail trade) in 1975. Since 1977, firms with fewer than 300 employees (100 for wholesale and retail trade) are also classified as "small".

Source: Bank of Japan, *Economic Statistics Annual*, various issues.

Table 14

Financial Assets and Liabilities of Personal Sector (billion yen)

	1955/12	1960/12	1971/3	1981/3	1991/3
Total assets	na	12741	70525	333598	954509
Cash	530	907	3982	13425	29205
Demand deposits	1116	2169	8035	26728	54603
Time/savings dep	1891	5163	32802	181577	414933
Trust accounts	144	426	4062	21016	64942
Insurance res	388	1282	9552	47108	199484
Securities	750	2308	9982	40762	178149
Liabilities					
PFI loans	631	1902	15694	79599	221759
GFI loans	214	591	2696	21151	51411
Trade credit	593	1677	11185	31024	58374

Source: Bank of Japan, *Economic Statistics Annual*, various issues.

Table 15

Flow of Funds of Personal Sector (billion yen)

Sources of Funds

	Loans	(PFI)	(GFI)	Trade Credit
1961/65	4139	3492	646	2319
1966/70	11521	9923	1598	6547
1971/75	31843	26792	5051	8990
1976/80	48647	35530	12118	10196
1981/85	46629	33222	13405	11470
1986/90	114005	96498	17507	20464

Uses of Funds

	Cash	Demand	Time Save	Secur	Trust	Insur
1961/65	1000	2202	7586	2956	1103	1799
1966/70	2332	4474	19216	4203	2527	5695
1971/75	5162	11322	54646	10347	6310	12982
1976/80	4269	7297	94188	18779	10084	24575
1981/85	4680	7789	101154	30830	18691	45052
1986/90	11102	17790	132203	28417	24639	106963

Note: Except for 1961/65, all figures are for fiscal years.

Source: Bank of Japan, *Economic Statistics Annual*, various issues.

Table 16

Equipment Fund Loans from GFI and LTC Banks
(% of all bank loans)

	1961		1971		1981		1991	
	GFI	LTC	GFI	LTC	GFI	LTC	GFI	LTC
Electric Power	58	27	48	37	37	40	51	34
Ocean Shipping	59	23	70	17	55	21	31	14
Coal	61	36	85	11	na	na	na	na
Iron & Steel	33	56	6	67	16	56	14	38
Textiles	2	56	9	54	9	43	4	10
Chemicals	11	56	13	55	17	50	20	26
Machinery	8	72	9	60	11	45	8	15
Others	4	47	8	33	8	16	4	9
All Industries	31	41	17	39	13	23	7	11

Notes: GFI: Government Financial Institutions

LTC: Long-term Credit Banks

Source: Japan Development Bank (JDB/JERI 1994)

Table 17

Composition of New Supply of Industrial Equipment Fund by Industry
(billion yen and percentages)

	Total	Stocks	Bonds	Loans	PFIs	GFIs	Special Account
Manufacturing							
1956/60	2532	530	113	1889	1607	279	4
		21.0	4.5	74.6	63.5	11.0	0.2
1961/66	9322	1555	576	7191	6258	921	12
		16.7	6.2	77.1	67.1	9.9	0.1
Mining							
1954/60	199	32	3	163	109	47	7
		16.1	1.5	81.9	54.8	23.6	3.5
1961/66	265	22	9	234	122	84	29
		8.7	3.4	88.7	46.0	31.7	10.9
Agriculture, Forestry & Fishery							
1954/60	397	13	1	384	173	178	31
		3.3	0.3	96.4	43.6	44.8	7.8
1961/66	890	21	7	862	427	421	13
		2.4	0.8	96.8	48.0	47.3	1.5
Electric Power							
1954/60	1397	134	62	1201	773	167	261
		9.6	4.4	86.0	55.3	12.0	18.7
1961/66	1539	192	300	1046	733	120	194
		12.5	19.5	68.0	47.6	7.8	12.6
Land Transportation							
1956/60	262	28	24	211	182	14	16
		10.7	9.2	80.9	69.5	5.3	6.1
1961/66	1147	81	111	854	710	49	194
		7.1	9.7	83.1	61.9	4.3	16.9
Marine Transportation							
1954/60	440	46	1	393	262	131	--
		10.5	0.2	89.6	59.3	29.6	0.0
1961/66	561	13	--	548	237	282	28
		2.3	0.0	97.7	42.3	50.3	5.0

Note: Figures for 1964 are excluded for electric power, land and marine transportation.

Source: Bank of Japan, *Economic Statistics Annual*, various issues.

Table 18

Composition of New Supply of Industrial Equipment Fund
by Major Branch of Manufacturing Industry
(billion yen and percentages)

	Total	Stocks	Bonds	Loans	PFIs	GFIs	Special Account
Textile							
1962/64	435	68	23	344	285	59	--
		15.6	5.3	79.1	65.5	13.6	0.0
1965/67	489	7	34	447	365	82	--
		1.4	7.0	91.4	74.6	16.8	0.0
Chemicals							
1962/64	976	210	24	742	667	75	--
		21.5	2.5	76.0	68.3	7.7	0.0
1965/67	1267	116	68	1083	1004	79	--
		9.2	5.4	85.4	79.2	6.2	0.0
Machinery							
1962/64	1149	257	63	829	727	102	--
		22.4	5.5	72.1	63.3	8.9	0.0
1965/67	1280	62	166	1051	919	118	14
		4.8	13.0	82.1	71.8	9.2	1.1
Iron & Steel							
1962/64	732	220	47	466	441	25	--
		30.1	6.4	63.9	60.2	3.4	0.0
1965/67	780	8	101	670	643	27	--
		1.0	12.9	85.9	82.4	3.5	0.0

Source: Bank of Japan, *Economic Statistics Annual*, 1964 (pp. 35-36) and 1967 (pp. 53-54)

Table 19

Composition of JDB Lending
(% of total)

	1961	1971	1981	1991
Electric Power	50.3	21.6	28.8	38.3
Ocean Shipping	26.8	33.9	10.9	5.0
Coal Mining	4.7	4.7	..	..
Iron & Steel	9.5	2.3	4.7	1.6
Priority Industries	91.3	62.5	44.4	44.9
Textiles	0.3	1.5	0.8	0.4
Chemicals	2.6	5.9	4.6	3.3
Machinery	1.7	4.4	2.6	3.2
Other	4.0	25.7	47.7	48.1
Total	100.0	100.0	100.0	100.0

Source: Japan Development Bank

Table 20

Allocation of FILP Funds (%)

	1953	1960	1970	1980	1990
Industry & Technology	29.1	13.6	5.7	3.0	2.9
Transport & Communications	11.3	14.1	13.2	9.6	8.3
Trade & Economic Cooperation	--	7.9	10.6	5.6	5.8
Small Business	7.9	12.7	15.4	18.7	15.7
Agriculture, Fisheries & Forestry	11.2	7.1	5.0	4.9	3.1
Housing	5.2	12.8	19.3	26.2	30.3
All Other	35.3	31.8	30.8	32.0	33.9
Total	100.0	100.0	100.0	100.0	100.0

Source: JDB/JERI 1994.

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