THE PERFORMANCE AND ROLES OF JAPANESE DEVELOPMENT BANKS

Ayako Yasuda
Department of Economics
Stanford University

May 1993

* This paper was written as a Senior Honors Thesis in Fall '92 - Spring '93. The author is much indebted to Dr. Marilou Uy, Professor Joseph E. Stiglitz, Dr. John Page, and Ms. Maria-Louisa Cicognani for their guidance and support during my internship at the World Bank, and to Professor Masahiko Aoki of Stanford University for his mentorship throughout the school year. She is also grateful to Professor Hugh Patrick and Mr. Frank Packer for their comments on an earlier version of the paper.

THE PERFORMANCE AND ROLES OF JAPANESE DEVELOPMENT BANKS

TABLE OF CONTENTS

LIST OF GRAPHS

LIST OF TABLES

THE PERFORMANCE AND ROLES OF JAPANESE DEVELOPMENT BANKS

Ayako Yasuda

May 1993

I. INTRODUCTION

Economists have exerted a massive effort to research both effectiveness of Japan's industrial policy as well as importance of its banks in financing its economic growth. Yet surprisingly little has been said about the relationship between the two topics.

This paper examines the nature and magnitude of roles played by Japanese development banks in fostering Japan's post-war growth. In particular, it focuses on two such unique institutions---the Industrial Bank of Japan (IBJ) and the Japan Development Bank (JDB). While IBJ has always been a private institution since its founding in 1902, JDB, which was established in 1951, has been government-owned. Despite the differences in the form of ownership and the length of history, the two are often held up as the most influential leaders in the field of industrial finance in post-war Japan.

Given that they were major financiers of the national economy, one might ask who had the effective control over their activities. One extreme of the spectrum is that they were passive instruments of the government, and that the government implemented its credit policies through these institutions by exerting both direct and indirect influence on them, such as legal privileges/restrictions, administrative guidance, extensive monitoring, etc.. Another extreme is that they assumed their developmental role autonomously and bargained with the government to gain greater influence as well as independence. One of the aims of the paper is to place each of the two institutions on the right point of the spectrum.

In addition to this basic task, I would like to investigate the following questions:

1. What, if any, missions did they each have? How were those missions reflected in their activities?

2. How effective and efficient were they in achieving the government's policy objectives? Why?

3. Did they affect the behaviors of their borrowers as well as other private financial institutions? If so, how?

4. What lessons might their experiences offer to the financial reforms in developing countries and transforming socialist economies (TSEs)?

The rest of the paper consists of five sections and proceeds as follows. Section II illustrates the national debates behind the origins and reorganization of development banking system in Japan. It highlights three periods in which major changes occurred---namely the 1900's when IBJ was established, the war period in which IBJ increased its influence over the national economy, and the 1950's in which JDB was founded and IBJ reorganized. Section III illustrates the legal and regulatory framework within which the Japanese development banks operated and the actual direction of their financing activities. Section IV evaluates various hypotheses concerning the roles played by the Japanese development banks. Section V analyzes the experiences of other developing countries and TSEs in comparison to the Japanese experience with IBJ and JDB, followed by a list of factors in the economy that seem to affect each model of development banks. Section VI concludes the paper and summarizes the policy implications.

II. THE ORIGINS AND EVOLUTION OF DEVELOPMENT BANKS IN JAPAN

2.1 The Status of Development Banks within the Japanese Financial System

This subsection is intended to provide unacquainted readers with a rough sketch of the existing Japanese financial system and the relative importance of development banks within it. The rest of Section II is devoted to the history of IBJ and JDB.

2.1.1 Identification of Development Banks in Japan

What makes development banks distinct from conventional financial institutions? According to Aspects of Development Bank Management, "[t]he acceptance of responsibility for furthering the nation's development policies is the special factor that makes a bank a development bank. Whatever its name, ----[a]ny kind of financial institution can be so transformed---a commercial bank, a mortgage bank, an investment company." (Diamond and Raghavan, p.33) According to this definition, institutions that qualify to be development banks within the Japanese financial system make up a rather long list. 11 government financial institutions, 3 private long-term credit banks, 7 trust banks, and numerous private financial institutions for small business and for agriculture, forestry, and fishery, all seem to assume some development-oriented objectives.[1]

The scope of this paper, however, is limited to those development banks that specialize in allocation of credit to industrial plant and equipment investments, because of the close correlation between industrialization and the growth rate of a national economy. Moreover, private cooperatives and credit associations are highly decentralized institutions whose intermediary

[1]. For a complete list of financial institutions in Japan, see Appendix.

role is limited both geographically and sectorially, and thus are inappropriate to assume a dynamic role. With these additional criteria, the list is shortened to 3 long-term credit banks---namely IBJ, Long-Term Credit Bank of Japan, and the Nippon Credit Bank, and 3 government financial institutions---JDB, Export-Import Bank of Japan, and the Small Business Finance Corporation, respectively.[2]

2.1.2 Development Banks in Relation to Financial System in Japan

There exists a basic functional division of labor between Long-term credit banks and city banks[3]. Long-term credit banks today are licensed under the Long-Term Credit Bank Law of Japan, which sanctioned the creation of a private bank whose primary function would be "to extend long-term capital to Japanese industry by issuing debentures instead of accepting deposits". (LTCB Law[1952]) While city banks traditionally collected short-term deposits and provided working capital to large companies, long-term credit banks concentrated on funding plant and equipment investments by large corporations. For instance, 81.4% of outstanding loans by IBJ in 1960 were for equipment funds use, whereas the corresponding ratio for city banks in the same year was

---

2. The share of Japanese trust banks in the long-term credit market has grown significantly since the early 1960's. The main reason can be attributed to the introduction of highly popular loan trusts business, which improved the liquidity of beneficiary certificates and reduction in their size, thus making them more accessible to small savers. The author hesitates to include them in the category of development banks, however, because "the financial trust function of earning high interest for funds entrusted and returning those funds to the entruster is at the center of the trust business in Japan." (Suzuki, p.207) Also, each trust bank is affiliated with a particular financial *keiretsu* group and thus its lending decision is assumed to be bound by the group interests, making them inappropriate candidates for development banks.

3. City banks are one of the two categories of banks that together are called ordinary banks in Japan; the other category of ordinary banks are called regional banks. City banks, of which there are 11, typically have their headquarters in Tokyo or Osaka and have nationwide networks of banking branches. The largest six of them have historical ties to keiretsu groups. For a complete list, see Appendix.

8.53%. IBJ and city banks together held 77.5% of total outstanding loans and discounts of All Banks[4] to large firms (with capital of over 10 million yen).

JDB, on the other hand, was created in 1951 to "supplement and encourage the credit operation of ordinary financial institutions by supplying long-term funds in order to promote economic reconstruction and industrial development." (JDB Law, p.1) Rather than relying on debenture issues in the market, JDB's budget, like those of Ex-Im Bank of Japan and SBFC, is drawn up each year as a part of governmental funds program called Fiscal Investments and Loans Program (FILP).[5] JDB borrows most of its funds from the Trust Fund Bureau of the Ministry of Finance. The Trust Fund Bureau obtains majority of its funds from Post Office Savings Bank, the single largest deposit institution in the world.(*Economist*, p.83) Before the deregulation in the mid 1980's, the fund enjoyed exclusive access to the ample savings deposited at the Post Office Savings Bank that were in effect relatively long-term.[6] This enabled JDB to specialize in long-term plant and equipment loans to priority sectors chosen by the government.

---

4. "All banks" is a classificatory term and includes 1)city banks, 2)regional banks, 3)trust banks, and 4)long-term credit banks.

5. FILP is often referred to as the "Second Budget", both because of its considerable size and because it is closely coordinated with and drawn up at the same time as each fiscal year's General Account budget. The size of FILP and its ratio relative to the Central Government's budget in 1960 and in 1985 were Y 482 Billion, 27.65%, and Y 20.49 Trillion, 38.66%, respectively. FILP includes activities of all 11 governmental financial institutions, including JDB, Ex-Im Bank of Japan, and Small Business Finance Corporation.

6. At the end of March, 1986, it accounted for 25.8% of all personal deposits held in Japan (amounting to 20% of total savings). Because the interest rates on its savings rise sharply once they are held for more than 3 years, average retaining period of postal savings certificates (equivalent of bank savings deposits) in 1965 was 3.84 years, nearly 3 years longer than that of bank savings, whose average retaining period was 0.85 year.

2.1.3 Market Shares of JDB and IBJ in Long-Term Loan Market

JDB and IBJ, combined with other governmental financial institutions and two other long-term credit banks, were significant and influential suppliers of industrial equipment funds. Their importance peaked around 1955, when the combined share of "policy finance institutions"[7] in new supply of industrial equipment funds reached 50%. (Graph 1)

The share of policy finance institutions in outstanding equipment funds shows continued decline from 70% in 1955 to 20% in 1990. (Graph 2) The reduction in JDB's share is largely due to its withdrawal of funds from the industrial sector, which is consistent with the change in government's credit policy objectives over time.[8] Reduction in IBJ's share, on the other hand, seems to reflect the fact that equipment loans made by other financial institutions like city banks and regional banks grew at a faster rate than that of IBJ. Net increase/decrease of industrial equipment funds supports this observation. (Graph 3) These data suggest that, at least in terms of quantity, JDB and IBJ loans once dominated the economy in the early years of acute capital scarcity and then were outgrown eventually by private banks. More detailed analyses of their quantitative and qualitative influence will be pursued in Section III and IV, respectively.

7.This includes up to 7 governmental institutions---JDB, Export-Import Bank of Japan, Small Business Finance Corporation, which existed in 1955, and Small Business Credit Insurance Corporation, Environmental Sanitation Business Finance Corporation, Hokkaido and Tohoku Development Corporation, and Okinawa Development Finance Corporation, which were established later---and 3 long-term credit banks---IBJ, Long-Term Credit Bank of Japan, and the Japan Credit Bank.

8. For example, among the 13 categories used to classify FILP funds by use, the share of Industry and Technology declined from 29.1% in 1953 to 3.2% in 1991, whereas that of housing (mostly channeled through Housing Loan Corporation) increased from 5.2% to 32.6% during the same period. (JDB[1993], p.19)

2.2 J.P. Morgan of Japan?----Origins of IBJ in the Pre-War Period

Unlike Long-Term Credit Bank of Japan and the Nippon Credit Bank, which were created after the passage of LTCB Law in 1952, the Industrial Bank of Japan had already been in operation for 50 years when it reorganized itself to become one and the largest of the three long-term credit banks in 1953. Its extraordinary pre-war history as one of the most powerful special banks in Japan is noteworthy for two reasons. First, it seems to explain the vigor and versatility of IBJ's operations as a "policy-finance institution" as well as a key source of scarce human capital (i.e. the personnel who can assess credit-worthiness of projects) in the post-war period. Second, to the extent that it was the key institution for implementation of the nation's development policies in the pre-war period, comparative study of its pre-war activities might shed some light on the nature of JDB's role in the post-war era.

IBJ was created as a semi-governmental institution because the private sector seemed unequipped to develop a long-term bank debt market. There might have been a couple of reasons for such a market failure. First, despite the growing domestic demand for long-term capital, commercial banks were averse to commit themselves to long-term projects of which returns were highly uncertain and also seemingly too low. That is, the nation was rapidly building railroads and nationwide utility system (electricity and gas), and the government was also planning to build railroad system in China, Taiwan, etc.. These projects were seen as unattractive in the private sector because completion of the projects would take years and then the regulated fee structure would keep its profitability low.

Another need for a bank specializing in long-term credit arose from the fact that many commercial banks were making excessive loans to their clients while relying on their short-term deposits and thus there existed a serious mismatching of term risk. At the time there was no limits on how much a bank can lend to a single borrower. The Bank of Japan was especially worried about it.

Establishment of a special long-term credit bank was first proposed in Japan by then-Finance Minister M. Matsukata right after the beginning of the 1980 depression. Prior to the depression, many businesses were springing up and expanding rapidly by making new equity issues as well as increasing bank loans collateralized by the stocks. The expected increase in rice prices, interest rate raise by commercial banks, and worsening of trade accounts all contributed to the sharp drop in stock prices. Since commercial banks made most of these security-backed loans, the deterioration of stock prices severely damaged their liquidity and paralyzed their commercial banking operations. This was the first serious financial crisis that Japan experienced after it adopted capitalism in the 1860's.[9]

Matsukata's original model was based on his observation of the French Credit Mobilier. The plan was to set up a special bank that mobilizes funds by issuing financial debentures and allocates them by making "relatively long-term" (IBJ[1982], p.2) loans while taking stocks and bonds as collateral. He thought that this would restore the liquidity of other commercial banks' assets and assure sufficient flow of funds in the nation's payments system. Note here that the objective of this new bank is strictly supplemental; its main role was to alleviate the term risk problem that the commercial banks were facing and to restore confidence in direct finance market. It was expected to assist industry only indirectly by absorbing loans in excess of commercial banks' capacity.

---

[9]. <u>IBJ 75-Year History</u>, pp.1-2.

The plan was eventually given serious consideration by the government when the 1898 depression plagued the nation, this time mostly as a counteraction to the over-expansion following the victorious Sino-Japanese War. The supply of funds was extremely tight, and businesses, after their unsuccessful attempts to raise capital overseas on their own, requested establishment of a special bank whose objective included mobilization and allocation of foreign capital to the priority industries such as railroad, shipbuilding, port construction, mining, etc.. The demand for such an institution seemed especially high among railroad companies as well as other infrastructure industries. (IBJ[1982], p.4) The business community set up a committee, and 12 parliament members responded by submitting IBJ Act Plan in 1889.

The government was worried about a clause in the Plan which called for a government guarantee of IBJ bonds that are issued overseas, and insisted that there be no explicit guarantees. After the passage of the IBJ Law in 1900, the government appointed a 22-member committee, which then discussed the objectives of the bank. While supporters of the original Matsukata plan attributed a relatively passive role to the bank, others argued for a highly active and specialized "industrial" bank which would lead the industrialization of the nation's economy. The government and the central bank, on the other hand, had their own interests in the bank. They hoped that, in addition to alleviating the commercial banks' burden, they could implement their policies such as (1) improving the safety of collateral lending (by supervising IBJ's collateral standards) and (2) inducing introduction of foreign capital under effective government's control. (IBJ[1982], p.6)

The objectives of IBJ were left somewhat vague when the Industrial Bank of Japan officially started its operation on March 31, 1902. The IBJ 75-Year History states, "---from the very beginning of IBJ's history, the government forced IBJ to act in accordance with its national objectives in many ways. ---Thus IBJ went through tremendous difficulty before it established its reputation as the long-term industrial financier during the war era." (p. 7)

A question arises as to the uniqueness of this Japanese experience at the turn of the century: Was the delay in maturity transformation in private banking sector coupled with high demand for capital a universal trend at the time? And if so, did similar circumstances lead to establishment of industrial banks in other countries as well?

In Germany, large powerful banks such as the Deutsche, the Dresdner, and the Darmstadter were founded in "deliberate imitation of the French Credit Mobilier." (De Long[1991], *International Economy*, p.77) They kept close and multi-layered relationship with their industrial clients that included not only making short- and long-term loans but also assisting their credit issues and significant shareholdings. De Long states:

> "The role played by the Great [German] Banks in monitoring and supervising corporate management was an accepted part of German financial theory in the years before World War I. There was a clear sense that this " monitoring" role was a very valuable one." (p.77)

In pre-WWI American financial markets, a dozen or so powerful banking houses in New York such as J.P. Morgan and the First National Bank handled a security floatation worth more than $10 million each year. This was about one and a half times a year's national product, and roughly 40% of the country's produced capital stock. (Goldsmith[1954]) They not only underwrote bond and stock issues of blue chip companies, but also owned a significant portion of their clients' stocks and frequently held permanent representation on the board of directors. Before investment banking and commercial banking operations were strictly separated following the Great Depression and passage of the Glass-Steagall Act, these prestigious firms in effect controlled what securities would be issued and thus which industries would receive additional capital.

In pre-WWI time, concentration of credit-allocation power in the hands of a few was thus considered necessary and beneficial. What was shared across countries was the perception that a concentrated structure was necessary in order to finance a burgeoning economy with limited capital, and in particular to manage the risk associated with the long-term loans market. Commercial banks were too numerous and too weak, and therefore thought of as unfitting to play the role of risk manager. Whether state-led or spontaneous, creation of a highly centralized credit allocation system emerged in those countries while they experienced exceptionally rapid economic growth. IBJ was in a sense the Japanese equivalent of what was J.P.Morgan & Co. in the Anglo-American world in the pre-Glass Steagall era.

2.3 Changes in the Financial System during the War Period and Subsequent Change in IBJ's Role

In order to understand the evolving role of IBJ in the Japanese economy over time, it is crucial to interpret its change within the context of overall change in the financial system. In pre-World War II Japan, a system very different from what is perceived today as the main bank (MB) system[10] existed.

10. [t]he so-called 'main bank' of a company, which is a major stockholder of the company and serves as an organizer of long-term loan consortiums to the company on a regular basis,....is in the position of being briefed about the company's ....business ...affairs [as] a major stockholder and is able to scrutinize the company's strategic investment plan [as] a major lender."(Aoki[1989], p.148) In addition, the main bank system as a whole is

It is characterized by powerful positions of individual stockowners and somewhat subordinate and less significant positions of banks to the firms. Some of the most powerful stockowners were _zaibatsu_ families, who also controlled some of the largest private commercial banks. According to Aoki[1989];

> _Zaibatsu_ refers to the conglomerate corporate group that existed until the post-World War II reform. These groups were controlled by holding companies exclusively owned by founding families such as Iwasaki(Mitsubishi), Mitsui, Sumitomo, and Yasuda. Post-World War II corporate groups, or financial _keiretsu_, are no longer consolidated by single holding companies, but are loosely formed through mutual stockholding along the lines of old _zaibatsu_ connections, or with a bank as the nucleus." (pp.119-120)

In fact this bank serving as the nucleus in financial _keiretsu_ (e.g. Mitsui Bank or Sumitomo Bank today) is a typical example of a Main Bank. Thus emergence of the MB system appears to be associated with the elevation of those commercial banks' status from the property of _zaibatsu_ families to the center of _keiretsu_. Since IBJ in the post-war period has served as MB for a number of large corporations, its status also seems to have gone through a profound transformation during the same period. The objective of this subsection is to document links between what appears to be the most drastic reform in the commercial banking sector in Japan's financial history and the gradual increase in IBJ's power in the financial community.

In the pre-war period, _zaibatsu_ firms were largely financed internally by controlling families who owned most of the stock. In case of non-_zaibatsu_ firms, the largest stockholders were *de facto* owner-managers of the firms. In both _zaibatsu_ and non-_zaibatsu_ cases firms relied more heavily on retained

---

characterized by mutual delegation of monitoring responsibilities among participating banks, including initial assessment of projects, interim monitoring of on-going projects, and possible refinancing/restructuring of failed projects/companies in distress. 6 largest city banks and IBJ are conventionally considered first-tier main banks, while smaller city banks and LTCB assume the role of main bank less frequently.

earnings and equity finance (through both internal and external direct capital market) than they did on bank loans. In contrast to the strong position of stockholders, that of banks was weaker and somewhat passive to the demand of capital by the firms' owner-managers. Factors that might have contributed to the weak position of banks were: 1)existence of a large number of small commercial banks relative to their giant industrial borrowers,[11] 2)prevalence of traditional financing i.e. borrowings from money lenders and acquaintances, and relatively low-saving rates, both of which limited banks' credit-mobilizing power and the extent of their role as long-term investment financiers, and 3)the high risk of insolvency due to the limited diversification of the banks' loan portfolio.[12] All three points mentioned above imply that individual banks in the pre-war Japanese economy were too weak in their resources and portfolio diversity to play an effective role as monitors.

There seems to be a striking parallel between the weak position of private banks vis-a-vis their borrowers and that of IBJ vis-a-vis its single-largest customer, the Japanese government. Between 1902 and 1914, 79% of IBJ's financial debentures was absorbed by the Deposit Bureau[13] of the Ministry of Finance and foreign investors through government-guaranteed

---

11. Since there was virtually no regulations for entry to banking industry, the number of commercial banks reached a peak of 2334 around 1900 and stayed very numerous until the big policy change in 1933. "Entry into the banking industry was almost completely free before 1918, and even after 1918, anyone could open a bank provided it satisfied minimum capital requirements, at least until 1933 when the compulsory guideline of one bank in one prefecture was introduced." (Teranishi[1991], p.321)

12. The most prominent example was a family-owned bank created semi-exclusively to finance firms under the same ownership. The owner-managers' aversion to information disclosure often led them to internally own a bank, "since by doing so the firm can secure a funding source without disclosing any information." Ibid., p.324. The result, a very big ratio of the related-firm loans on its portfolio, left such a bank very vulnerable to the financial slump of its owner's firms.

13. This bureau was later renamed as Trust Fund Bureau. (See 2.1)

overseas issuance. (IBJ[1982], p.14) The severe financial dependence on the government was somewhat alleviated after 1920 when IBJ was newly allowed to sell its debentures in smaller denominations and as discount bonds to attract private investors. Even after that, the government continued to force IBJ to finance a major portion of national projects, especially railroad, mining, and other projects in its overseas colonies[14] and kept it vulnerable to the political fate of the military government.

IBJ seems to have started playing a more dynamic and active role around the late 1920's, when the basic foundation of the present Japanese financial markets was also being laid down. (Sakakibara[1982]) The transformation of IBJ's status was first initiated by its own effort to improve appraisal / screening skills. In 1913, shortly after the Hasami Gold Mine problem[15], IBJ sent its staff members to Europe and the United States, where they learned project appraisal techniques of their Western counterparts such as Morgan Guaranty Trust Company. IBJ thought that acquisition of "scientific project assessment capability" was absolutely necessary in order to distinguish IBJ's competence as a long-term financial institution from ordinary banks and to improve its negotiating power vis-a-vis the government.(IBJ[1982], p.37) This newly acquired assessment skill later became IBJ's trademark feature, and in as early as 1927, the Bank of Japan requested IBJ to assess the value of factories which it was considering as collateral for its special loans.

Then in 1930, in the middle of *Showa* 5 Depression, T. Yuuki, a former central banker, was appointed as president of IBJ by then-Minister of Finance

---

14. "Of the 91 million yen lent to China by the IBJ, 40% were government money either in the form of Deposit Bureau purchase of the IBJ debenture or government deposits at the IBJ..37% were debentures sold to other agents, but these were secured by the government." (Ueda[1993], p.7)

15. "During the russo-Japanese War [IBJ] made loans (on Government orders) to domestic gold mines, which later could not be repaid." (Patrick[1967], p.270)

J. Inoue. This highly political appointment reflected a dilemma which the incumbent cabinet was facing: It was aware that its previous deflationary policy had started the depression, but it was unwilling to save the market by admitting the mistakes and reversing the government's policy. Instead, Inoue, a former BOJ president, decided to covertly delegate the task to IBJ and let it appear as if "IBJ acted out of its own will." (Hanema, p.175)

The newly appointed president Yuuki thought his mission was to "avoid chain bankruptcy by leveraging companies, and restore the market confidence as soon as possible" (Hanema, p.177). He ordered massive relief loans that were clearly beyond the bank's capacity at the time. There was no ex ante government guarantees for IBJ's loans. It suffered from both a free-fall of its stock prices and a difficulty in raising capital after its wild lending behaviors had been criticized by the media and parliament members. However, after considerable negotiations with BOJ and the Ministry of Finance, it received financial support from the Deposit Bureau of the Ministry of Finance as well as loans from the Bank of Japan.

Records of this and other numerous cases of "rescue-lending" (such as the Kanto Earthquake Relief loans) conducted by IBJ during 1920's and 1930's uniformly indicate that IBJ's loans and those of commercial banks were in inverse relation, especially during economic downturns. That is, commercial banks' lending tends to decrease even absolutely during an economic slump, thus inducing more bankruptcies, while that of IBJ increases both proportionately and absolutely.(IBJ[1982], p.30) This might have meant that, in the government officials' eyes, IBJ's stabilizing role was ever so more important, and at the same time, commercial banks' behaviors were detrimental given the uncertain economic climate.

In addition, the government had been working on its national goals, namely the military expansion and (as the means to that end) production capability maximization. This practically required minimization of consumption goods production and reallocation of inputs in favor of the government military orders and durable goods production. However, various changes in international as well as domestic environments[16] gave rise to the soaring inflation[17] resulting in the increased number of labor disputes[18]. The government's response of freezing the domestic market prices in the hopes that the firms would absorb the cost of the soaring input prices was met by a sharp decrease in the production level. As mentioned in footnote 18, the owners of the firms also shifted their burden to their employees by delaying increase of real wages while keeping high dividends paid out to stockowners. Observation of such corporate behaviors led the government to fear that the short-term profit maximization principle pursued by individual owner-managers would seriously impede the accomplishment of its national goals. (Okazaki[1991], p.382)

Consequently, starting in 1938, the government brought about a series of new comprehensive policies which were intended to restructure the free-market economy controlled by stockowners to a highly centralized economy with a greater role played by banks. Two, among the new policies, caused drastic reorganization of the existing financial institutions. One was the deliberate reduction of the number of banks by means of higher capital requirements,

---

16. The top three of those changes were: a sharp increase in international raw-material prices, the economic blockade by the Allies, and the shortage of labor due to the large-scale draft. (Okazaki[1991], p.363)

17. The wholesale prices increased by 25% in 1937. (Ibid., pp.377-8)

18. In 1937, the real wage decreased by 5% due to the delayed increase in the nominal wage relative to the voracious inflation. This had an immediate negative impact on the social stability, for the number of participants in labor disputes jumped up to more than 4 times as large as the figure in the year before. (Ibid., p.380)

forced mergers and acquisition of small banks, and the compulsory guideline that limited the distribution of banks to one per prefecture[19].

Another significant policy was the Designated Bank System, which made it compulsory for each existing bank to render services to particular military and other industrial firms. Its intention was to maximize production capability of those key industries by guaranteeing them ample capital resources. According to Aoki and Sheard[1991], "[a]t the end of the war, there were 2,240 firms to which the designated banking system was applied, and 1,582 of these were designated to one of five major zaibatsu banks."(p.2) One can see from this observation that those powerful zaibatsu banks, such as Mitsubishi, Mitsui, and Sumitomo, were already acting as if they were MBs for a number of firms during this era by being forced by the government in the extremely regulatory environment.

Along with these policies, the government also restricted the dividend pay-out rate and strongly pushed for higher individual saving rates. All of the above policies were devised to prohibit the myopic profit-seeking behaviors of the owner-managers and to rearrange the firms' behavioral patterns to be conducive to the execution of the government's economic plans. As a result, the discretionary power of the owner-managers and stockowners declined while the banks' influence on investment decisions of their client firms increased significantly.

These policies were absolutely fundamental to the change in IBJ's role in the Japanese economy. Under the war economy, IBJ engaged in what was called "Compulsory Finance". The government specified the amount and

19. It seems that the banking operation of these local banks were limited within its geographical location. However, a small number of so-called city banks were allowed to operate throughout the nation, and the combined total of these city and local banks in 1945 were only 65. (Aoki and Sheard[1991], p.2)

direction of such lending, and this special account was kept separate from IBJ's own account. Most of loans made in this fashion were officially guaranteed by the government. While other banks (most notably big zaibatsu banks) also participated in defense finance under the aforementioned Designated Bank System, IBJ was the single largest player. In 1941, for example, the share of IBJ's equipment loans to machinery, chemical, and transportation industry relative to the total credit provided by banks, securities houses, and bill brokers reached 64.1%, 58.2%, and 59.7%, respectively. (IBJ[1982], p.65) Other banks' loans (e.g. those of Nippon Kangyo Bank, savings banks, and regional banks) were often consolidated in the form of deposits to IBJ.

From a prudent banker's point of view, defense finance involved too much uncertainty and therefore the defense industry was expected to face great difficulty in raising enough capital. According to IBJ 50-year History Book, its then-president Kawakami[20] perceived that massive structural reorganization in the industry would be necessary after the war regardless of its result, and thus the concentration of such risky loans in IBJ alone meant that other financial institutions would be safely shielded from the consequences of such reorganization.

IBJ also singularly played a leading manager role in syndicated loan market. In the pre-war era, syndication among banks was often practiced in underwriting of corporate bonds, where IBJ was the most frequent lead manager. During the war period, loan syndication among major banks became quite common, reflecting the need to raise a huge amount of capital for National Policy Corporations (NPCs) and to share the aforementioned risk of default after the

---

[20]. Kawakami later became the first president of the Ex-Im Bank of Japan in 1950.

war. IBJ's expertise as a lead manager in capital markets and its heavy involvement in loans to NPCs were the main reasons for its prominent status among other commercial banks. In 1941, IBJ, 10 largest commercial banks, and 5 trust banks [21] formally agreed to let IBJ serve as a lead manager and to set up a coordinating office inside the headquarters of IBJ. IBJ employees worked in this office, negotiating with the borrowers and facilitating communication among member banks. IBJ participated in 70% of all syndicated loans in 1941 and served as lead manager in 90% of the participating loans.

This practice fundamentally diversified and improved IBJ's client pool. As noted before, zaibatsu companies in the pre-war period relied relatively little on bank finance, let alone on non-zaibatsu bank finance. Subsequently, IBJ had to desperately seek credit-worthy clients among non-zaibatsu companies. Nissan, Kawasaki, and Nihon Chisso are a few examples of such non-zaibatsu or new-zaibatsu groups that IBJ actively sought, nurtured, and made close relationships with. The conditions under the war economy, however, suddenly gave IBJ easy access to numerous prestigious firms, among others old-zaibatsu corporations. It seems that IBJ's old ties with non-zaibatsu companies eventually developed into a MB relationship in the post-war era, whereas its new ties with zaibatsu companies through syndicated loans during the war enabled it to maintain its status of the largest long-term credit provider for those companies, second in share to the MB. (Graph 4) These two kinds of relationships of IBJ with its clients will be separately discussed in Section IV.

2.4 Origins of Post-War Long-Term Financial Institutions

[21]. 10 commercial banks were Daiichi, Mitsui, Mitsubishi, Sumitomo, Yasuda, Daihyaku, Sanwa, Nomura, Tokai, and Koube. 5 trust banks were Mitsui, Mitsubishi, Sumitomo, Yasuda, and Sanwa. (IBJ[1982], p.63)

After the Second World War, a variety of reforms took place in Japan under the U.S. occupation. One such reform was the dissolution of the zaibatsu by prohibition of holding companies and the forced sale of stocks owned by controlling families. Another was the immediate temporary closure of special banks.[22] A considerable share of zaibatsu firms' stocks were bought by the former zaibatsu members, both the nuclear bank and other firms, contributing to the creation of the interlock shareholding device which insulates firms from hostile takeovers attempts. This enabled a former designated bank to continue an intimate long-term relationship with the managerial body of its client firms, who would otherwise have been very averse to information disclosure.

Furthermore, banks were protected from excessive competition by means of such governmental policies as limited authorization of branching out of new bank offices, control of inelastic and low dividend rates, and ceilings on both deposits and borrowing rates. While the number of banks increased in the absence of the forced Designated Bank System and one-per-prefecture quota, it was ultimately kept under the government's control through these regulations. The former designated banks found themselves continuing to serve as the top lenders, albeit no longer as the exclusive lenders, for their former client firms. It was in such environments as described above that the MB system today gradually came to existence.

While zaibatsu-banks strengthened their positions vis-a-vis the government and their borrowers through the post-war reforms, most of the special banks including IBJ faced the danger of extinction. IBJ's

---

22. The U.S. Occupational Forces were mainly dominated by New Dealers at the time. They were very hostile toward special banks, which they thought were some of the most effective instruments used by the Japanese Imperial Government to enforce its military aggression before the end of the war.

reorganization effort started in 1946 after the Ministry of Finance temporarily allowed continuance of IBJ's privilege to issue financial debentures. Sohei Nakayama, a key-personnel at IBJ who will be frequently mentioned in this paper, presided over the Reorganization Preparation Division and energetically lobbied the government as well as the U.S. Occupational Forces. (Hanema, p.207)

IBJ's fight over its continuation as a debenture-issuing bank was not easy, however. The U.S. Forces' basic policy was to completely separate securities firms and banking houses, and to force all banks to become commercial banks. No other special banks were as strong-willed as IBJ. For example, Yokohama Specie Bank, a licensed foreign exchange special bank, eventually converted itself into an ordinary bank, while still retaining its foreign exchange privilege. Hokkaido Takushoku Bank and Nippon Kangyo Bank gave up their debenture-issuing privilege and became city banks.

IBJ, on the other hand, patiently tried to convince the U.S. General Headquarters that "because of the dominance of intra-zaibatsu finance in the pre-war era, the Japanese securities markets today remain grossly crippled to finance the nation's economic recovery and growth," and that "neutral debenture-issuing banks should continue to exist in order to ensure efficient allocation of long-term industrial funds." (Hanema, p.211) Their persistent efforts, combined with the shift in the U.S. foreign policy in favor of IBJ,[23] enabled it to survive as a unique institution in the field of long-term industrial finance. Incidentally, it is interesting that when IBJ re-

---

23. Deepening of the Cold War raised concern within the U.S. government that Asia might fall under the Communists' rule. Their initial goals in the region, democratization and demilitarization, were soon replaced by strong economic performance of allied countries such as Japan. For this reason, the Japanese financial industry largely escaped the long-expected strong antitrust legislation. (MOF, *Shuusen kara Koowa made*)

capitalized itself in 1949, it was originally allowed to raise equity capital only from other financial institutions. This in effect might have symbolically emphasized the premise that a new IBJ would act in the interests of the financial community, and of the national economy at large.

At the same time, the Japanese government and the Bank of Japan were seriously concerned about the so-called "over-loaning" problem of commercial banks. Demand for capital was tremendously high in the economy that was rapidly recovering from its destruction brought about by the war. Commercial banks, and notably those <u>keiretsu</u> banks, were excessively borrowing from the Bank of Japan in order to finance their once-affiliated <u>zaibatsu</u> member companies. Concurrently, most of the loans made by city banks were short-term operating funds, and the serious lack of long-term equipment funds was in part been alleviated by resorting to rolling-over of these short-term loans. The Bank of Japan regarded this phenomenon as potentially harmful to the health of the nation's clearance system (BOJ[1983], V, pp.203-4)

Moreover, another serious problem was developing regarding the abolition of the Reconstruction Finance Bank (RFB). RFB was created shortly after the end of WWII to rebuild the battered economy. To be exact, IBJ started its Reconstruction Finance Division in August, 1946, upon the government's request. Aforementioned Sohei Nakayama took charge of this division until it was spun off to become RFB in January, 1947. (Hanema, p.207) It was mostly staffed by the division members at IBJ, and the share of its funds provided to key sectors such as coal and iron relative to the total credit received by those sectors was quite significant.[24]

---

24. "As a result, coal distribution for iron and steel production increased 62% in FY1947 over FY1946, and 61% of the coal industry's demand for steel materials was secured." (JDB[1993], p.238)

However, because the government financed it by basically printing money (its bonds were purchased mostly by the Bank of Japan), it quickly caused severe inflation and therefore had to be abolished in 1949. The dissolution of RFB temporarily stopped the flow of public funds into the private industrial sector, while the flow of repayments on the outstanding RFB loans from the borrowing firms to the government continued. This even worsened the credit shortage and the over-loan problem. Thus the loans it made had to be taken over by someone immediately. Given these complications, a consensus that there is an urgent need to streamline the Japanese banking system and to increase provision of long-term capital was being unanimously shared among the public officials.

At that time, IBJ had just re-capitalized itself and was yet to be allowed full operations by the U.S. General Headquarters. While IBJ survived its critical period during 1946-49 and succeeded in maintaining its specialized status as a debenture-issuing long-term credit bank, it lacked political and economic legitimacy to continually rely on public funds and carry on the government's policies as it was coerced to do in the pre-war and war period. This seemed apparent given the power of the U.S. occupation as well as the support IBJ received from the private sector in re-capitalizing itself.

Meanwhile, it soon became clear that not only general shortage of capital existed across the board, but also there was a growing gap in the degree of shortage between 2 groups of industries. Namely, private financial institutions concentrated their loans in booming exporting industries such as textile, foodstuff, lumber, and pulp. Basic industries such as electric power, coal mining, and marine transport typically all require a considerable level of capital accumulation over a long period of time before their production level starts showing improvement, and therefore were less attractive investments for private financiers. As a result, the year of 1949 saw the dissolution of RFB, the end of *keisha-seisan houshiki*, or "priority production system", and subsequently a dramatic drop in equipment investment in coal, electricity, and steel.[25]

The Korean War Boom starting in 1950 dramatically increased the demand for capital in the private industrial sector. The gap widened even further and the Japanese economy seemed to be in danger of a critical coordination failure. However, no single financier could fully internalize the benefit of such progress in infrastructure industries.

In order to open a channel through which the government can direct the Trust Fund Bureau's rapidly growing funds[26], the U.S. Assistance Fund, and repayments on previous RFB loans into priority sectors that were not been sufficiently funded by the private sector, establishment of a new policy-finance institution was perceived as imperative. Thus the Japan Development Bank was created in 1951. Upon its establishment, most of RFB members who were former IBJ employees stayed to become JDB bankers. Furthermore, it received over 50 personnel from IBJ, including Nakayama as Senior Executive and Takemata, who was known as the best officer in IBJ's appraisal department, as the head of Project Assessment Division. As far as the source of personnel was concerned, what was born in 1951 under the disguise of JDB was virtually a down-sized version of IBJ.

---

25. According to the survey by MITI Corporate Bureau, 17 companies in coal industry on the average obtained only 32% of the credit amount desired for plant and equipment investment.in 1949. The corresponding ratio for 10 companies in electric power industry and 24 companies in iron and steel industry were 50% and 65%, respectively. Textile industry, on the other hand, obtained 126% of the desired amount in the same year. (<u>JDB 10-Year History</u>, Table 1-6, p.17)

26. Postal Savings Bank's deposits were increasing by annual growth rate of 25% (Yoshino[1992])

In the early years of JDB, Nakayama and Takemata took initiatives in making a decision to fund Kawasaki Steel's technologically innovative blast furnace. Though originally fiercely opposed by BOJ, this project triggered eventual participation by other city banks in financing other steel companies' similar projects. (Hanema, pp.22-26) Following this, between 1956 and 1960, 11 additional blast furnaces were installed in Japan (JDB paper[1993], p.240)

In 1952, shortly after the establishment of JDB, the Long-Term Credit Bank Law was passed to sanction "a new type of private bank in Japan which would become a primary source of long-term capital for Japanese industry with funds coming from the issuance of debentures rather than from the acceptance of deposits." (LTCB[1978]) Apparently, over-loaning problem seemed to persist even after the establishment of JDB, and it was deemed desirable to create private long-term credit banks whose loans will replace the commercial banks' rolled-over short-term loans. Accordingly, IBJ was reconverted once again into a long-term credit bank, while the Long-Term Credit Bank of Japan was newly created under a government-sponsored plan that span off and reorganized long-term loan division of Nippon Kangyo Bank and Hokkaido Takushoku Bank, both ex-special banks. As in the case of JDB, long-accumulated expertise in those special banks were preserved and transferred to a new institution, and as in the case of IBJ, it was capitalized by 77 financial institutions and 34 insurance companies, among others. (LTCB[1978])

The post-war reorganization of financial system by no means drove IBJ out of its long-assumed semi-public role. For instance, while the infusion of public funds of 162 billion yen helped the shipbuilding industry rebuild its capacity rapidly[27], it also caused the industry to struggle with the heavy

---

[27]. The marine transport industry was devastated by the war, and it reached 80% of the pre-war level in terms of international route capacity by the end of the 1950's.

debt it incurred in the early 50's. IBJ played a major role in the 1960's in striking a bargain with then-12 major companies in which they would merge to 6 companies in exchange for ample syndicated loans from banks during the painful restructuring process.

In 1965, IBJ helped set up a new security purchasing company whose task was to stabilize prices and to save ailing existing security firms by pumping capital into the stock market. IBJ fully supported the new company and also pressured other city banks to make contributions. He eventually succeeded in obtaining "special finance" from the Bank of Japan for this company, which boosted the confidence in the market and ended the crisis. Given the complicated self-interests of <u>keiretsu</u> banks associated with individual security firms, neither a city bank nor JDB was fit to play this role. Once again, IBJ proved its unique role as a neutral arbitrator of the Japanese economy. Similar episodes regarding IBJ's involvement in automobile industry and steel industry will be discussed in Section IV.

III. IBJ AND JDB: THEIR LEGAL NATURE, PRIVILEGES, AND PERFORMANCE

<u>3.1 Privileges Given to and Restrictions Imposed upon the Japanese Development Banks</u>

How did the government exert influence on a private institution such as IBJ? IBJ was given special privileges from the government throughout its existence and in that sense was never an ordinary private enterprise. While it enjoyed the privileges which other city banks did not have, it was also obligated to help the government implement its policies. Throughout its history, IBJ seems to have been playing a continuous bargaining game with the government in which it has tried to resist some of the government's demands as well as accept others, and in return win favors to advance its own objectives.

The largest privilege IBJ received from the government was the oligopolistic position in financial debenture market.[28] As mentioned in Section II, in the pre-war period, IBJ was often financed by the Deposit Bureau of the Ministry of Finance and consequently had relatively little leverage vis-a-vis the government in its lending decisions. Typically, it was used to channel funds to Japan's overseas colonies to build railroads, develop mining fields, etc.. Its senior positions were appointed by the Cabinet, and appointees themselves often came from public offices, as Mr. Yuuki who was appointed in 1930 came from the Bank of Japan.

IBJ was also given a near-monopoly privilege in overseas municipal bond issuance business for local governments, and for some time also foreign currency corporate bond issuance as well. (IBJ[1982], p.17) It also accumulated extensive knowledge and experience in the securities market through issuing and selling of its own debentures.[29] Its leading position in underwriting market was somewhat threatened after the World War I as a result of a sharp increase in corporate bond offerings by zaibatsu-electric power companies, a huge business to which IBJ was denied access to. However, the drastic policy measures taken during the war years did nothing but strengthened IBJ's dominance in the business. As a post-war publication by IBJ gloriously and somewhat nostalgically proclaims:

> "The position of the Bank (in those days the Bank still remained a special bank operating on a semi-Government basis) as the leader in the bond underwriting field rose all the more due in part to the Government's control on bond flotation under the wartime

---

28. Right now this is changing as a result of the deregulation in the 1980's--
--other banks are likely to be allowed into this market in the future.

29. "The Industrial Bank's major contributions prior to World War I lay in its successful development of a debenture-issuing market and in its attraction of foreign portfolio capital." (Patrick[1967], p.270)

> economic setup that started out in 1937. In and after 1939 the Bank's originating percentage went up to a marvelous 90% level and thus the Bank has come to reign over the market in the true sense of the word." (IBJ[1964], p.34)

After the war, this IBJ's privilege in the securities markets was largely eliminated through the transformation of IBJ from a special bank to a long-term credit bank, and also due to the separation of commercial banking and investment banking enforced by the U.S. Occupation Forces. It kept its privilege in underwriting local government bonds and government-guaranteed bonds of public corporations such as Nippon National Railways, NTT,[30] and Nippon Highway Public Corporation.

In the post-war period, as depicted in 2.4, IBJ reorganized itself as a long-term credit bank after several years of an unstable period. Under the Long Term Credit Bank Law[1952], "[a] long-term credit bank may issue debentures within the limit of an amount equal to twenty times the total of its capital and reserve." [Article 8] The Trust Fund Bureau's funds were mostly allocated to governmental financial institutions such as JDB, and composition of IBJ bond purchasers gradually shifted from the government to city banks to individual investors. (Packer[1993], pp.11-13) Even then, the government had indirect control over availability of credit to IBJ through the following avenues.

First, the interest rates on financial debentures were decided by a cartel consisting of IBJ and other 2 long-term credit banks and 5 trust banks, and since they were pegged to official rates, the Bank of Japan had *de facto* control over them. Second, BOJ accepted financial debentures as collateral from ordinary banks for its loans. Since BOJ loans had more favorable terms than private loans and were heavily relied upon by among commercial banks, such a practice by the central bank had a considerable impact on the

[30]. These 2 corporations have since been privatized.

popularity of IBJ bonds. That is, IBJ received indirect subsidies through such measures. As a result, after the decline in purchase by the Trust Fund Bureau in the mid 1950's, city banks were major purchasers of IBJ debentures for about a decade.

In other aspects such as appointments of senior positions, IBJ became completely free of the government intervention. Post-war presidents of IBJ therefore have been all internally promoted. In order to check competition with the ordinary banks, it and other long-term credit banks are restricted in the kinds of deposits they can receive[31], and the amount of non-equipment funds long-term loans or short-term loans is also limited to the total of accepted deposits. Competition in deposit acceptance from households was also *de facto* impossible for long-term credit banks, given their lack of extensive branch network.

JDB, on the other hand, is much more directly controlled by the government in terms of its budget, profit margin, etc.. It is 100% owned by the government, and its top 3 executives are appointed by the Prime Minister.[32] Its budget of revenues and expenditures needs to be submitted to and approved by the Diet (JDB Law, Article 24 & 26) and "the balance of any profits remaining after deduction of a set level of internal reserves" must be paid to the National Treasury. (Article 36)

Interest rates on JDB loans for priority sectors were set lower than the private loan rates. While JDB charged close-to-private-market rate of 10.00% to general industries between 1951-53(IBJ lending in 1952 had an average rate of 11.6 %), it made exceptions for electricity and marine transport, and

---

31. "---the acceptance of deposits shall be restricted to those from the State, local public bodies, borrowers, companies for which the bank acts as trustee in the issuance of corporate bonds, and other customers. " (LTCB Law[1952], Article 6, (3))

32. These appointees today are typically from **MOF and BOJ.**

charged 7.5% in 1952, and 6.5% in 1954. Those rates were often determined and changed by passage of special bills in the Diet.

At the same time, JDB, along with the Export-Import Bank of Japan (EIBJ), is given more autonomy than other government-owned financial institutions such as Small Business Finance Corporation (SBFC). Here the distinction is demonstrated in their names; "With the word 'Bank' in its name, JDB is expected to manage its business efficiently and autonomously in the same manner as ordinary banks." (Article 7) This is different in the case of "Corporations",[33] where the government is heavily involved in their activities. For example, JDB does not need to report to or get approved by the government for selection and execution of its loan programs, whereas those corporations "must obtain ministerial approval every quarter for projects and funding programs." (JDB[1993], p.29)

Also, JDB's relative flexibility is reflected in the fact that its policy goal is defined fairly generally[34], and more specific plans are revised by the Cabinet every year as the Basic Operations Policy to meet the most current needs of the economy. The policy goals of corporations, on the other hand, are much more rigidly specified, and are more or less permanent. As the JDB itself claims, "This Basic Operations Policy indicates that JDB's role as a policy-based financial institutions is not simply to supply funds to a specified field[as in the case of, say, Housing Loan Corporation], but rather is to supply funds while choosing the fields most important for actualizing the government's policy objectives at that time." (JDB[1993], p.38)

---

33. See the list of corporations in Appendix.

34. "The purpose of JDB is to supplement and encourage---credit operation of ordinary financial institutions---in order to promote both industrial development and economic and social progress." [JDB Law, Article 1]

3.2 Direction of Credit Policies through Development Banks in Post-War High-Growth Period

Having investigated the historical evolution of and legal differences between IBJ and JDB, an obvious empirical question must be addressed now: How were the differences in their natures and privileges reflected in their actual loans? This subsection analyzes the lending pattern of IBJ and JDB vis-a-vis private commercial banks from the 1950's to the early 1970's both quantitatively and qualitatively. A special emphasis was placed on 6 major infrastructure and manufacturing industries (Metals[35], Machinery, Chemical, Public Utilities[36], Transportation[37], and Mining[38]). In addition to the comparisons among lenders, borrowing patterns of those industries are also examined.

Ratio of loans made by 'all banks'[39] to 6 major infrastructure / manufacturing industries relative to the total loans peaked around 1955-1965. (Graph 5) This was consistently true for loans made by JDG (Graph 6) as well as IBJ[40] (Graph 7). However, following differences were observed.

a. The ratio of loans made to these 6 industries by 'all banks', even at its highest, was modest 37%. The same ratio for JDB was over 90% in 1955 and 1960, and the one for IBJ was over 70%. That is, these policy finance institutions not only specialized in long-term equipment funds, but also concentrated their loan portfolio in infrastructure and heavy manufacturing industries, i.e. so-called priority industries.

---

35. Iron and Steel industry dominates this category.
36. This category consists of electric power, water, and gas.
37. This category consists of land transport and marine transport.
38. Coal mining dominated this category in the early post-war era.
39. See Footnote 4.
40. This excludes loans made for manufacturing of weapons during the war.

b. Lending patterns of IBJ and JDB were also different. While IBJ's loans were more or less equally distributed among the 6 industries with a slight emphasis on manufacturing industries such as steel and machinery, JDB's loans were heavily skewed toward public utilities and transportation.

c. It could be suggested that JDB's mission was more narrowly focused than IBJ's on 1) phasing out sunset industries such as coal mining, and 2) supplementing private financial markets in the sector such as electricity, where private banks were not allocating funds necessary for the societal growth. For instance, machinery industry was considered fast-growing and promising, so all private banks were financing it heavily. JDB lent very little to this industry. IBJ, on the other hand, had private interests in a wider range of industries, including those growing industries such as automobiles, electronics, synthetic fibers, and chemical industries. This point will be further explored in Section IV.

Trends analyses of composition of outstanding equipment loans made to each of 8 selected industries indicate the followings: (Graph 8-15)

a. JDB consistently dominated electricity, coal mining, and marine transportation between 1955 and 1973.

b. IBJ was highly significant in steel, machinery, chemical, and shipbuilding, all of which were considered fast-growing, export-oriented sectors. It was modestly important in electricity and textiles. Its importance in coal mining and marine transportation gradually declined after JDB took over its role.

c. JDB's once-heavy involvement in steel all but disappeared by 1960, reflecting the completion of Kawasaki Steel's blast furnace mill and the shift in the government policy from "quantitative" to "qualitative' support of steel industry.[41] Similarly in machinery and chemical industry, JDB was first significant in 1952 and then quickly and drastically withdrew by 1960. This perhaps reflects the fact that after the passage of Long-Term Credit Bank Law in 1952, JDB could shift some of its developmental roles to private long-term credit banks and concentrate on priority sectors. JDB's share appears to be somewhat replaced by the Japan Long Term Credit Bank and the Japan Credit Bank, the other two of long-term credit banks. (Graph 8, 11, and 12) It is also conceivable that in 1952, the absolute amount of credit that JDB had just allocated was disproportionately large relative to the rest of the financial community which still was in the middle of the over-loan problem. Although these industries were not JDB's target sectors and their share among total JDB loans was very small (Graph 6), share of the amount provided by JDB relative to the total credit provided to these sectors in the early 1950's was still significant.

Analyses using more disaggregated data confirm these observations and further illustrate the rapid and clear process of specialization among JDB, long-term credit banks including IBJ, and city banks through the 1950's.

Graph 16-21 compare loans made by JDB, IBJ, and city banks to 3 growing, export-oriented industries, namely automobiles, shipbuilding[42], and synthetic fibers, in 1952-1957.

---

41. By 1960, the government decided that the iron and steel industry "established a solid business" and that it "no longer needed to rely on public finance." (JDB[1993], p.243) Consequently, JDB shifted its funding to specail steel, considered a vulnerable industry, while dramatically reducing its loan scale to steel sector.

42. Unlike marine transportation industry, which was totally devastated by the defeat of Japan in terms of both production capacity and financial strength, shipbuilding industry maintained a reasonabe capacity level (800,000 gross tons) at the end of the war. Though it suffered financially from the dissolution of the Navy, its most important customer, and the termination of wartime compensation, its production level as well as productivity grew quite rapidly. By 1960, it developed into "one of Japan's representative export industries, lauching about one third of the world'ships from 1956 to 1964---." (JDB[1993], p.232)

a. In all 3 sectors, city banks dominated others in provision of operating funds, as expected. The amount of their loans increased swiftly over time, too.

b. In shipbuilding, city banks also provided a significant amount of equipment funds until 1951, perhaps reflecting the over-loan problem. It quickly declined in 1952 when JDB started operations and made large loans. Later on, both IBJ and JDB poured a significant amount of capital into this semi-priority sector. JDB's loans jumped after 1955, when the ratio of export ships compared to domestic ships increased dramatically.

c. In synthetic fibers, LTCBs' provision of equipment funds shows a steady growth, whereas that of JDB declined after the first few years, and that of city banks appears to be relatively volatile. In automobiles, LTCBs almost single-handedly provided equipment funds, while JDB loans remained relatively low.

In sum, the findings from the graphs are consistent with the following views: (1) After the creation of JDB(1951) and establishment of LTCBs (1952), the over-loan problem was alleviated and city banks concentrated on provision of working capital to "winner" sectors, which received quantitatively little support from FILP. (2) LTCBs specialized in providing long-term capital to those "winner" sectors, though it also supplemented JDB to a certain extent, e.g. making a relatively large contribution to public utilities, etc..[43] (3) JDB specialized in providing cheap and extraordinarily long-term funds[44] to priority infrastructure sectors and to a certain degree to sunset industries.

43. This was often done by the Trust Funds Burear's one-time purchase of IBJ and LTCB of Japan's debentures specifically tied to subsequent lending to electric power companies. (IBJ[1982])

44. Average loan periods for equipment loans by JDB, LTCBs, and city banks were 12.2, 3.3, and 1.8 years each in 1955, and 11.3, 4.8, and 2.9 years in 1965, respectively. (JDB[1993], p.132)

(4) Each group's specialized function did not seem to hamper others; instead, they seemed to enhance each other. This last issue is further explored in Section IV in terms of complementarities among specialized groups.

IV. HYPOTHESES CONCERNING THE ACTUAL ROLES PLAYED BY THE JAPANESE DEVELOPMENT BANKS

There has been an on-going debate concerning the nature of the JDB and IBJ lending and their effect on other private financial institutions' lending behaviors. Related literature so far has focused on two competing theories, namely, insurance effect and signaling effect (also sometimes called cowbell effect). (Uy and Stiglitz[1993], Vittas[1991]) The historical findings in Section II of this paper show that the new institutional arrangements were intended to complement the existing private banking sector, and the quantitative analyses in Section III suggests that such complementarities did exist among them. Moreover, both JDB and IBJ seem to have played an important coordinating/communicational roles in the 50's and 60's due to their neutrality. Furthermore, IBJ also seems to have played a unique historical role as the forerunner of a main bank. Each of these roles are examined in the following subsections.

4.1 Insurance Effect and Signaling Effect

First of all, signaling effect means that the project, company, or industry to which IBJ or JDB directs its credit is regarded by other private banks as promising and sound. As a result, the company or industry enjoys ample and cheap credit not only from those policy finance institutions but also from private commercial banks as well. Uy and Stiglitz[1993] states that " Japanese policy makers and economists argue that development banks have influenced the lending to growth industries through their signaling effect." (p.16)

Insurance effect, on the other hand, means that a company/project that IBJ or JDB funds is backed by the government and their loans are implicitly guaranteed. That is, if the company goes bankrupt, IBJ and/or JDB will rescue the company, and therefore protects its other creditors' interests. This induces other private lenders to provide credit to wherever the government money goes. Uy and Stiglitz[1993] provides several examples in Asia region to show that "[t]he perception of implicit insurance by the government of priority activities is not unwarranted," (p.17) but that the two effects are often concurrently observed and thus are hard to separate out.

If signaling effect is examined to be the more dominant one of the two, then this might support a rather paternalistic role of the state with the meek private sector willing to follow and benefit from the state's leadership. A sign of insurance effect, on the other hand, seems to create classical moral hazard on the side of the client firms as well as that of other creditors, and therefore is detrimental to the economy.

There are several reasons to doubt that JDB loans had a strong insurance effect on its borrowers and/or borrowers' other creditors. That is, it can be observed that JDB was extremely careful in not only utilizing its own monitoring capability but also pre-arranging their loans so that an interested third party will monitor its client and in some cases bail out the firm. First, JDB emphasized its supplemental nature by preferring *kyocho yuushi*, or cooperative/consortium lending, with either other city banks or private long-term credit banks. (JDB 10-Year History, p.68)

Second, after signing of the contract, JDB did not give out the entire sum but temporarily kept the loans and provided credit step by step as the project proceeded so as to "avoid situations where JDB credit alone is used up before other portions of syndicated loans are spent, and where JDB funds stay on the borrower' side for longer than planned." (JDB[1958], p.64)

Third, JDB demanded its borrower to open a separate account at its main bank through which JDB funds can be provided, and subsequently requested the main bank to monitor and to make sure that its funds are being paid out only to those firms that are specified in the book as having relationship with the borrower regarding the funded project. (Ibid., p.64)

Fourth, when making loans, JDB requested a reasonable level of collateral, and thus could demand a senior claimant status in light of the collateral value. In addition, JDB[1993] paper states that "[w]hen necessary it is requested that the guarantor be someone who has a relationship with the borrowing company as an interested party(a parent company, etc.)." (p.267, Footnote 27) As a result, even if the borrowing party is financially distressed, JDB could still often receive repayments, through either disposal of collateral or transfer of the debts to the guarantor. In addition, because JDB often gave *de facto* subsidies to its borrowers by means of preferential interest rate, meeting its loan obligations was much easier for the company than repaying normal loans to private banks.

Since JDB had no particular main bank obligations to lend to one company over another, its neutral position might have signaled to other banks that the company it chose, or the kind of projects it financed were truly the most promising **within that particular industry**, and led them to increase their finance either in equipment funds or in operating funds. Increased availability of credit then might have increased the company's chance of success ex post.

Kawasaki Steel case is one of a few such examples. (see 2.4) This event, however, seems to be the exception rather than the rule in the JDB's lending patterns. JDB's mission in the early 50's was to fill the gap between the export-oriented industry such as textile industry and infrastructure industry such as electricity in their access to credit by providing funds to the latter. While JDB's action was very strategic from a national economy point of view in a long run, it was precisely because private individual players could not internalize the long-run benefits of investing in infrastructure industries that JDB needed to step in and complement their lending. Thus by the very premise of the JDB loans, other banks were not expected to follow/imitate JDB, and in fact they did not. (See 3.2)

In the case of marine transport crisis, Nakayama's quote suggests that JDB lending, compared to IBJ lending lacked selectivity and therefore its capital infusion in the industry did not strengthen it but merely delayed its real crisis.[45] That is, since the JDB loans tended to have rigidly equal preferential terms for any firm within a designated priority sector such as marine transport, firms were not encouraged to invest in nurturing

---

45. Nakayama was one of the main members of a business association called Keizai Doyu-Kai (established in 1946). He served as the chairman of policy Deribaration Committee within this organization from the late 1950's to early 60's. He influenced the business community's attitude toward the marine transport industry crisis, and the report published by Doyu-Kai in 1958 states as one of the causes of the crisis "the fact that policy finance [toward marine transport industry] emphasized only production expansion and lacked appropriate incentives to improve cost-efficiency." (Hanema, p.46) Later in 1962, when asked to express an opinion at the Transportation Committee within the Liberal Democratic Party, Nakayama criticized the Transportation Ministry's bill for 5-year postponement of 50% of interest repayments on JDB loans as "insufficient and unselective". (Ibid., p.54) The bill was later rejected in the Diet. He then lobbied for a more comprehensive plan in which the industry will be highly concentrated through mergers and the government will select only those newly concentrated firms and gives them more drastic subsidies.

competitiveness. In this case, JDB lending might have created moral hazard problem for the borrowing firms, but not necessarily for other lenders, for other banks refused to finance this nationally important but shaky industry in the first place. Similar findings can be inferred about coal mining industry. (See Graph 9, 10)

IBJ's project screening/appraisal skill was considered by both financial and non-financial industries to be the best. The fact that JDB was first staffed with IBJ-men suggests that this expertise was somewhat transplanted to JDB in the beginning and was effective in the earliest period of its history, during which such important loan decisions such as that to Kawasaki Steel were made.[46] The question is whether this expertise as well as the prudent bankers' spirits transferred from IBJ were maintained at JDB, or they were gradually replaced by bureaucratic mentality. The marine transport case suggests the latter, but this alone is insufficient to be conclusive about this question.

JDB itself claims that "--one of significant roles played by Japan's policy-based finance is its function to guide private finance through the so-called 'pump-priming effect'."[47] Given that this "pump-priming effect" refers to the "soft industrial policies", (JDB[1993], p.55) its effect seems to be of minor importance. For example, JDB claims that it was crucial in fostering machine tool industry and auto parts industry and improving the quality of their products, which became one of the strengths of the Japanese manufacturing industries later. However, it seems that both the Small

---

46. Later in the 1950's, both Nakayama and Takemata went back to IBJ.

47. "---although it is small in terms of its quantitative weight, 'pump-priming', in the form of the transmission of information from the government (the direction of policy, etc.) to the private sector serves to support and guide private sector financial institutions and has played a role in guiding the investments of private firms in a direction that is desirable for the national economy." (JDB paper[1993], p.256)

Business Finance Corporation and other various measures such as tax breaks played a more significant role (JDB[1993], pp.210-221) except in the very first years of JDB operation, when it single-handedly provided credit to just about every industry. (See 3.2) While the quantitative as well as qualitative importance of JDB in balancing the credit imbalance between infrastructure industries and "popular" industries in the 50's seems unambiguously large, its effectiveness in its "soft policy finance" is much more questionable.

In short, there seems to be no strong sign of either signaling or insurance effect in JDB lending. Moral hazard on the other creditors' side was usually prevented through various measures by which JDB delegated interim and ex post monitoring responsibilities to other creditors. In the case of marine transport, however, JDB's management of preferential loans was not indexed to performance of individual companies, and thus might have caused moral hazard problem within the industry and lengthened its stagnation. As for signaling effect, majority of JDB's funds were used not in picking "winner" industries but in supporting infrastructure sectors, and thus its role as a "cowbell" seems to be of rather second importance.

In the case of IBJ, its private character might have sent a message that its choices of industries were economically more sensible for other private players to imitate than JDB's. It was expected to "provide long-term credit only to areas that are commercially profitable." (JDB 10-Year History, p.33, quote by the Finance Minister Ikeda in 1951.) This made more sense, given that JDB was 100% owned by the government and was not obligated to make profits beyond meeting debt obligations, whereas IBJ was largely owned and funded by other financial institutions and was supposed to act in the best interests of its private investors. (Hanema, p.223) Comparison of Graph 5 and 7 show that in terms of relative weight on each of 6 major industries, ordinary banks and IBJ were very similar. Graph 16-21 also show that both city banks and IBJ lent extensively to those growing industries, while specializing in short- and long-term loans, respectively, rather than competing against each other. To this extent, IBJ and city banks seemed to be signaling to each other as well as to the rest of the financial community.

At the same time, IBJ also lent to electricity, steel, and shipbuilding, where other banks did not necessarily follow. Electricity and steel are typical equipment industries that need long-term loans much more heavily than others, and maybe it was only natural that other city banks, which concentrated on short-term loans until recently, did not actively increase their share in these fields. In the case of electricity, utility companies were later made by the government to increase their issues of corporate bonds considerably to meet their credit needs.

Shipbuilding is an example of industries that IBJ was more heavily involved than JDB. This is interesting given that IBJ decided to shy away from marine transport and hoped that JDB would take its responsibility, at least in the earlier period. One could speculate that IBJ has had long-time banking relationship with ship-building industry since the pre-war period and could not withdraw due to its main bank obligations. Also, shipbuilding was regarded as a rather promising export industry in the 50's following the Korean War Boom (see footnote 42) and in fact it suffered structural depression only after the Oil Shock in the early 70's, which is outside the scope of this paper. (JDB paper[1993], p.226, 235)

To what extent IBJ loans to particular industry or company had insurance effect is not clear. Observations suggest at best a mixed result. As mentioned earlier, IBJ made large government-guaranteed loans to NPCs during the war. This might have helped create the perception that IBJ loans were insured by the government. However, the government in fact canceled these nationalized companies' debt after the war, much to the dismay of other financial institutions which held large amount of IBJ debentures. So this example seems to go against the insurance effect of IBJ loans.

Packer[1993] also shows that IBJ's special tie with the government allowed it to negotiate a special tax relief when it bailed out Japan Line, a marine transport company for which IBJ was considered the main bank. JDB was involved in this company as well, but it did not take the losses, which is consistent with the above argument about JDB. This example alone can neither support nor reject the insurance effect of IBJ, because the facts that IBJ was the main bank and that JDB was also involved in it make it a quite complicated case.

Compared to JDB, IBJ seems to have played more of a signaling role in "winner" industries, although there is no evidence that IBJ knew winners any better than city banks did. There is also no clear evidence that insurance effect existed, either.

4.2 Complementarities among City Banks, JDB, and IBJ

What gradually developed and functioned in Japan during its high-growth era appears to be a 3-segment industrial financial system with each segment specialized in certain kinds of loans and complementing each other. City banks provided operating funds, or short-term capital maturing in less than 1 year, to a range of industries that proved to be commercially profitable. Long-term credit banks complemented city banks by providing plant and equipment funds, or long-term capital, to similar industries within the commercially profitable range, with heavier weight on capital-intensive industries. JDB complemented both city banks and long-term credit banks by extending plant and equipment credit to infrastructure industries which private banks could not support quantitatively enough, and to commercially less profitable industries which private banks could not support rationally. Long-term credit banks also complemented JDB in the sense that they sometimes absorbed a part of policy loans for which JDB was by definition responsible whenever profits from other activities allowed them to do so without losing profitability. This largely resulted from IBJ's pre-war legacy as a semi-governmental bank. City banks also complemented JDB in the sense that they monitored their clients' JDB-specific account opened at their own institution whenever they act as MB to the clients.

Vittas and Wang[1993] observes in their survey paper on credit policies in Japan as the followings:

> "In practice, the Japanese industrial policy seems to have aimed at three different objectives: **To pick and support winners,** especially in areas where Japan could enjoy a dynamic comparative advantage; **to phase out losers,** i.e. to help the restructuring and reduction of capacity of those industries where Japan was no longer internationally competitive; and **to provide the necessary industrial infrastructure."** (pp.8-9)

As shown in the previous section, JDB's specialty among these three objectives was unquestionably the third one. In the case of coal mining, it also engaged to a certain extent in the second mission by funding promotion of closure of coal mines. IBJ was most active in serving the first role, i.e. to pick and nurture winners. It also served the second role, to phase out losers, in marine transport, shipbuilding, chemical, glass, and other industries,[48] and participated to a certain degree in the third one as well. City banks mainly

[48]. In Kigyo Keiretsu to Gyokai Chizu(Corporate Keiretsu and Industry Composition) [1991], the text refers to IBJ as "war-zone hospital" which cured and helped reorganize such major corporations as Japan Line, Toso, Clare, Central Glass, Fuji Heavy Industry, Keisei Railroad, etc..

concentrated on the first one. One remarkable feature of this 3-segment system is that it does not seem to distort or weaken the incentives of the private sector. Instead, it fully utilizes the ability of the private sector in picking and supporting winners by incorporating it into the system.

4.3 Coordinating / Communicational Roles of Neutral Players

Stiglitz[1993] employs the idea of multiple equilibria to explain the differences in the rate of economic development in various countries:

> "The diversity of stable institutional arrangements found within different countries, e.g. the diversity of legal and regulatory, educational, and financial arrangements, suggests that there may be multiple equilibria. Though different historical events may account for the differences, and these differences may persist, there is no reason to believe that all are equally efficient." (p.19)

According to this argument, linear progress and eventual convergence of systems are not at all evident. Rather, certain equilibria may be better than others in, say, promoting growth, and yet some economies may forever be trapped in a low equilibrium.

Is it possible then that Japan's economic recovery and growth in the post-war era showed such a remarkable success partially because it avoided being stuck in a low equilibrium by employing various coordinating devices? And is it possible that the two development banks which have been the foci of this paper were important elements in this coordination process? And if so, to what extent did the two institutions differ in their performance and roles? In order to draw any lessons from Japan's experience for other countries, it seems quite relevant to further investigate these questions regarding the coordinating / communicational roles of development banks.

Recall the gap in credit availability between export-oriented industries and basic industries in the 1950's as mentioned in 2.4. In terms of international competitiveness of the Japanese economy as a whole, it was quite essential that those infrastructure industries get sufficient funds to invest in new plants and equipments, for the productivity as well as production level of these industries would have profound effects on the cost and ultimate production capability of all the other industries such as machinery, chemical, shipbuilding, etc.. For example, provision of cheaper electricity would immediately make any manufactured goods more price-competitive, while failure to increase the total electric power generated in Japan would put a direct ceiling on growth in other industries. Clearly, the former case suggests a "good" equilibrium and the latter one a "bad" equilibrium. In order to get to a "good" equilibrium, the pecuniary externality needed to be internalized by channeling public funds through JDB to those high-priority sectors. Similarly, this was partially achieved by inducing city banks and regional banks to purchase IBJ debentures.[49]

In some historians' view, JDB was a vehicle used to implement what was coordinated among the MOF, MITI, BOJ, real sector, financial sector, etc..

> "The councils play an important role in providing the place for 'persuasion' to be carried out, and , as a result, once a proposal has successfully passed the council, its smooth enforcement is almost guaranteed (at least within the relevant industry). --- Deliberation over the coordination of capital investment in the iron and steel industry, for example, was for the most part carried out by the Industrial Rationalization Council, and it was here that a dialogue was carried out among firms in this industry." (JDB[1993], p.89)

It is possible that not only capital was infused where it was deemed necessary by JDB and/or the government, but also two-way information flow was established in which the relevant basic industry as well as the business community at large could give input and get informed about the scale of production in these infrastructure industries in the near future and plan

49. For the various means by which the government encouraged debenture purchases by commercial banks, see Packer[1993], pp.12-3.

their investment accordingly. Neutrality of JDB made this public information-sharing possible, and might have contributed to efficiency enhancement in the economy.

What made IBJ unique in many ways was its neutrality. As depicted before, IBJ has no *keiretsu* ties, its ownership is diffused among financial institutions, and it was frequently used for risk-pooling, e.g. by concentration of National Policy Loans in IBJ portfolio during the War, city banks' purchase of IBJ debentures during the late 50's and early 60's, etc..

Although establishment of JDB, EIBJ(Export-Import Bank of Japan), SBFC (Small Business Finance Corporation), etc. lessened the public nature of IBJ in the post-war era, its employees still seemed to continue to identify themselves with public and often national interest. Keep in mind that active senior executives of IBJ in the 1960's entered the bank in the pre-war era and experienced the dramatic increase in IBJ's influence over public affairs during the war, as the Designated Banking System made IBJ the single principal bank for many of National Policy Corporations. Stiglitz' unofficial interview with Mr. Nakayama reveals that IBJ men thought of themselves as public servants. This was not too far off given that in the early days of reorganization as a long-term credit bank, as high as 60% of IBJ debentures was being purchased by the Ministry of Finance, and arrangements were made in such a way as to tie government purchase of IBJ debentures with loans to specific industry sector.

Also, its special status as a long-term credit bank as opposed to commercial bank kept it separate from the so-called Big 6 financial keiretsu groups. In addition to having its own client groups, IBJ became acquainted with many zaibatsu companies during the war through the loan consortium activities. This, combined with the intended division of labor between city banks and LTCBs in the post-war reform, in effect made IBJ eligible to become the second largest lender, second only to the main bank, for any firm. In fact that was often the case, as shown in Packer[1993]. (Graph 4) This must have given IBJ an unsurpassed degree of access to insider's information of numerous industries as well as companies.

It is important to note that IBJ had more channels other than just lending in order to affect the behaviors of its business clients than JDB did. This multi-dimensional long-term relationships with numerous clients, combined with its highly-reputed expertise in controlling management's decisions in the firms in exchange of their loans, might have made IBJ a very effective bargainer, as in the case of marine transport industry crisis and the security industry crisis in the 1960's. (See 2.4) That is, IBJ's involvement signals to others *not* that these industries are promising to begin with (ex ante signaling), but that because of IBJ's commitment to monitor them, they will be credit-worthy ex post.

JDB, on the other hand, could neither own a significant amount of stocks, nor attend board meetings, nor send managers to its clients. Its relationship with clients was one-dimensional and more project-oriented. It did not even aim to control its clients in the way other city banks and IBJ did; its mission was simply to send credit to where it was needed. These differences in their legal nature as well as formal objectives suggest that IBJ was relatively more suitable to play a intra-industry coordinating role than JDB did.

4.4 IBJ as Prototype of a Main Bank

While neutrality was one of IBJ's key features, it also kept main bank relationships with many firms[50]. Its access to insider information of numerous corporations for which it served as main bank, its extensive management dispatches[51], its reputation as loyal rescuer in the case of financial distress of its client firms, etc. were some of the non-neutral characters that made IBJ a quite important player in many merger cases.

Two most famous mergers in the 1960's are that of Prince and Nissan in 1965, and that of Yawata Steel and Fuji Steel to become New Nippon Steel in 1968. In the former case, IBJ was the main bank for Nissan (Sumitomo Bank was the main bank for Prince), and in the latter case IBJ was the principal bank as well as the largest stockholder for both companies.

In both cases, IBJ was acting as a superb consultant on behalf of both parties and beyond. It actively negotiated with MITI, Anti-Monopoly Committee, and any other players in a remarkably sophisticated manner. JDB could not have served such a role, given the absence of main bank relationship in JDB lending, its public character, etc.. Aside from the sheer size of its credit in long-term credit market, it was in this kind of investment bank/consulting type service that IBJ excelled and had a big impact on the direction of the national economy during the 1960's.

In fact, there are some observations that imply that IBJ was the prototype of the Japanese main bank system. First, in the pre-war period, while _zaibatsu_ banks mostly financed their own group firms, IBJ had to

---

50. In _Kigyo Keiretsu to Gyokai Chizu_(Corporate Keiretsu and Industry Composition) [1991], IBJ Group is listed as one of the non-_zaibatsu_ big business _keiretsu_. Its client list includes New Nippon Steel, Nissan, Japan Airline, Taiyo Fishing, Cosmo Oil, etc..

51. In 1967, 64 major companies had former IBJ men as their senior executives. For a complete list, see Hanema, p.233.

cultivate new client groups, because it did not have a zaibatsu of its own. Compared to the relationship between a bank and a firm that were controlled by the same owner-manager or holding company, the relationship between IBJ and its client probably lacked strong mutual interests and formal binding ties. In order to protect its interests as a debtholder, IBJ improved its assessment skills and accumulated expertise in securities markets. (See 2.3) In addition, it also might have tried to dispatch its managers to the firms, and/or acquire an equity stake in the firms. In other words, when other groups were still controlled by holding companies or owner-managers, IBJ might have been already forming a keiretsu of its own.

During the war years, banks' control of their borrowers' management dramatically increased due to the policy changes depicted in 2.3. The first bank to be affected by the policies was IBJ, because the government first implemented "Order Loan" policy only on IBJ and designated some zaibatsu firms as IBJ's clients. Later Designated Bank System was expanded to include other top 10 private commercial banks as well. But given the neutral and central position which IBJ had within the financial community, it is conceivable that its practice was looked after as the norm. Thus when zaibatsu groups were dissolved after the war, the banks followed IBJ and quickly formed keiretsu groups through interlocking shareholding.

The above argument is no more than a speculative thought. But it is true that IBJ has been the pioneer in a number of business practices to which zaibatsu banks later entered, such as bond underwriting business, acquisition of project appraisal techniques, Euro-markets business, etc..[52] Its neutral

---

52. Ueda[1993] suggests that "[t]he strength of the IBJ has depended on the ease with which she was able to aollect funds through debentures. Thus, she has been able to devote most of her resources on other activities, including credit analysis." (p.21) This implies an interesting point, i.e.by giving IBJ privileges to raise capital relatively easily through debenture markets,

and public nature then helped its knowledge get diffused and spilled over to other financial institutions. In this sense, IBJ was important not only for industries' growth but also for that of the banking community.

V. TOWARD THE NEW MODEL OF DEVELOPMENT BANKS IN DEVELOPING COUNTRIES AND TRANSFORMING SOCIALIST ECONOMIES

5.1 The Existing Problems with Development Banks in Other Countries

The problems of financial sector in developing countries and transforming socialist economies are succinctly summarized in Stiglitz and Uy[1993] as the followings:

> "The problems of incomplete or undeveloped financial markets are more pronounced as developing countries start developing large capital-intensive (heavy) industries --- These industries are normally characterized by increasing returns to scale, and investments tend to be indivisible.---Since capital requirements are normally large, no single entrepreneur is able to raise the required capital. Nor can undeveloped capital markets. Moreover, large investments tend to have large risks, and the market provides few mechanisms to share risks. During the stage of heavy industrialization, financial markets of less developed countries possess little capacity to facilitate large and risky investments." (p.29)

In order to alleviate these problems and to promote industrialization, many countries have implemented numerous development financial policies. According to The World Development Report[1989], these policies can be classified into the following 5 tools: (1)Portfolio/lending requirement, (2)Development Financial Institutions (DFIs), (3)Refinance schemes, (4)Loans at preferential interest rates, and (5)Credit guarantees. (p.51) Among these 5, this paper

---

the policymakers effectively speeded up the process of accumulating specialized human capital within IBJ.

concentrates on the second, namely DFIs, and investigates various problems that those countries are facing.

In Korea, the Bank Supervisory Board determined and controlled the activities of commercial banks very extensively. The government chose not only priority industries but also such details as specific firms to be financed, share of each bank in a consortium loan, etc., and banks' task was merely to carry out the government's orders. Thus arose a typical moral hazard problem that led to inefficiency in bank management. Kim and Nam[1993] concludes that banks under this system did not monitor their clients as well as the government hoped them to be because "[d]ue to the underdevelopment of the banking industry in a fast growing government-led economy, banks could not accumulate enough know-how and capability to guide corporations." (pp.47-48) In addition, as a result of the state's nationalization of commercial banks, Korea lacked a vibrant private banking sector, which also might have contributed to the inefficiency in bank management.

In India, 20 commercial banks were also nationalized and lending requirements were imposed on up to 80% of their portfolio. They specialized in providing working capital, while state-run development banks specialized in providing long-term capital. However, commercial banking sector and development banking sector operate under two separate lead bank systems, and information does not flow back and forth between them. This hampered development banks' ability to delegate monitoring task to commercial banks with which they shared client firms. As a result, the performance of Indian DFIs has been less than favorable. For example, "in the case of ICICI, which is the most efficient development bank in India, only less than 50% of the projects were completed in time, less than 60% were completed without any cost overrun and less than 50% were able to earn the anticipated return of 12% or more---." (Bhatt[1993], p.22)

In TSEs, the former mono-bank system under the Socialist regime suffered from severe "soft-budget" problems[53] not only on borrowers' side but also on the lending side. Since then, commercial banks have been spun off from the Central Bank, and the permission has been granted for creation of new private banks. In this so-called "3-tier banking system" (Corbett and Mayer[1991]), commercial banks are still state-owned and suffer from lack of expertise in bank management. New banks are mostly poorly capitalized and lack coordination among themselves as well as with the state banking sector.

In fact, most long-term credit banks in the world today are in less than desirable conditions. According to The World Development Report[1989], "[i]n a sample of eighteen industrial DFIs worldwide, on average nearly 50% of their loans---were in arrears--." (p.60)

These problems of inefficient bank management rampant in other countries is due to several factors. First, it was partially caused by the lack of budgeting discipline. Where the budget comes directly from fiscal budgets, i.e. taxpayers money, it is hard to discipline development banks to make profits at all, and they normally incur losses. Second, it is also due to the lack of operational autonomy in the hands of development banks themselves. In countries where both commercial banks and development banks are state-owned and credit is literally rationed at the government's discretion (e.g. Korea's quota system or India's portfolio requirements), individual banks again hardly feel responsible for interim and ex post monitoring of their loans.

---

53. The 'softening' of the budget constraint appears when the strict relationship between expenditure and earnings has been relaxed, because excess expenditure over earnings will be paid by some other institution, bypically the State. When this becomes the rule, actual credit allocation is determined not by price mechanism but by bureaucratic bargaining between the central bank and state enterprises.

Thirdly, coordination tends to be lacking between private banking sector and public banking sector. In some cases, private banks are even nationalized.

In Japan, in contrast, there seems to be relatively little abuse of the credit allocation system. Vittas and Wang[1991] reports:

> "The problems of adverse selection and moral hazard, that have bedeviled the credit policies of many other countries, generally receive scant attention [in the literature on the operation and effectiveness of credit policies in Japan]. Perhaps this reflects the high level of efficiency of the Japanese civil service and the monitoring capabilities of banks--." (p.11)

The budget of JDB comes from FILP (Fiscal Investment and Loans Program), or, more specifically, from postal savings, FILP's single largest source of funds. JDB, instead of being entitled to its budget as one of government agencies, has to borrow (at the average of 5.5 % in the high-growth era) from the Fund Trust Bureau of the Ministry of Finance, and consequently pay back both principal and interests[54]. This obligation to the postal savings account holders, most of which are individual households, gave sufficient incentives to the government and JDB to emphasize *kyocho yuushi.*

As a result, out of the total investment made for projects in which JDB was involved in 1951-53, which amounted to Y180 Billion, the average ratio of JDB loans, long-term credit banks, and city banks among outside sources were 48%, 24%, and 17%, respectively. (JDB 10-Year History, p.68) Note that unlike other development banks which often get stuck with huge non-performing projects for which they are the biggest or sole lender, JDB seemed to diversify its risk by getting involved in many different projects while

---

[54]. JDB was initially more dependent on the national fiscal budget in 1952-54. For example, in 1953, it borrowed only Y14 Billion from the Trust Fund Bureau at 6.5 %, but borrowed Y 41.5 Billion from the Industry Investment Special Account with no interests. However, this was because the Trust Fund Bureau was still absorbing financial debentures issued by IBJ and LTCB at the time, and the amount JDB receives from the special account soon declined to a negligible amount as more budget was allocated to public institutions from the Trust Bureau and city banks started purchasing a large number of financial debentures. (JDB 10-Year History, p.84)

implicitly delegating the final monitoring / possible refinancing responsibility to private financial institutions.[55] Other measures are also taken in which JDB utilizes the capacity of other banks in order to secure its loans. (See 4.1) Unlike in most other countries where private banking sector is either non-existent or independent of public banking sector, there existed a sizable and sufficiently competitive private commercial banking sector in Japan. Japanese development banks complemented and were complemented by those private banks.

Also, the Japanese development banks were given more operational autonomy than those of other countries. (For a full discussion, see 3.1) Though the government has influenced the direction of their loans, the details of loans such as specific firms and conditions and terms of loans for majority of loans were at the discretion of banks themselves.

Lastly, Korean experiences shows that banks are often unable to accumulate expertise as fast as domestic industrial sector grows in the early developmental stage of a country. Therefore, it seems quite sensible that "---in the presence of limited managerial resources, the best management will have to be concentrated at the apex of this hierarchy." (Mayer[1989], pp.23-4) Prestige, influence, and relatively high salary[56] attracted the best graduates

---

55. A notable exception to this pattern was JDB's lending to marine transportation. While electricity companies performed reasonably well and eventually shifted from bank loans to bond issues, marine transportation industry suffered continual and worsening depression throughout the 60's. Since no other private financial institutions were heavily involved in the loan syndication to the industry, JDB had to take lead in refinancing them. One possible cause of this problem is the fact that huge amount of JDB loans were made before the reorganization of the marine transport industry. As documented in 4.1, JDB loans were indexed to performance *after* the reform, but not *before*, so JDB still might have had trouble collecting repayments from earlier loans.

56. IBJ has been known as the elitest of elite banks in Japan. It is common knowledge shared among college seniors that IBJ pays one of the highest salaries of all major corporations. It also has a very high ratio of Tokyo University graduates among its senior executives, comparable to that of central government ministries. 29 out of 45 senior executives at IBJ in 1990,

to the Japanese as well as Korean development banks. This was unlike development banks of many other countries.

5.2 JDB-Type Bank and / or IBJ-Type Bank: Prerequisites, Benefits, and Problems

Given the poor performance of DFIs in many countries and the rather unique success of the Japanese counterparts, can there be any lessons to be learnt from the Japanese experience and applied to those countries? This subsection suggests complementary socio-economic environments for each of JDB-type bank and IBJ-type bank, and discusses possible benefits and problems in creating such institutions.

A JDB-type development bank should be encouraged if the following complementary conditions exist or can be realized:

a. There exists a public savings scheme (postal savings, public pension programs, state-owned savings banks, etc.) that mobilizes a significant portion of national savings and (if existent) currently are channeling the funds thus collected only into government bonds, overseas investment, or simply letting them sit idle.

b. The government owns and operates more than one financial institution whose mission is industrial finance, and that transaction / information gathering costs are kept high due to lack of coordination among them.

c. There is a sizable private commercial banking sector, and that it is relatively free from the government in picking industries. It may be regulated in terms of branching, deposit / lending rates, etc. while there is still enough space for competition.

---

or roughly 2/3, were Tokyo University graduates. Similar ratios prevail at Mitsubishi Bank and Fuji Bank (29/44, 25/38, respectively), while Sumitomo Bank has a lower ratio of 19/48, reflecting the fact it is headquartered in Osaka.

a. is especially necessary if industrial infrastructure (electricity, steel, land/marine transport, etc..) needs to be built fast, for the work involved is typically capital intensive. **c.** is complementary to the policy finance realized by **a.** and **b.**, and is better than nationalizing banks and imposing portfolio requirements (Bhatt[1993], p.28) This is simply because competition among private banks leads to more efficient allocation of credits among industries and projects than uniform lending requirements would. Recall that JDB loans did not interfere with the loans made by city banks but were used to fill the "gap" between growth industries and infrastructure industries.

In the case of promoting a government-owned bank, a lesson can be leant from the experience of JDB about securing its loans and delegating the responsibility of interim and ex post monitoring / refinancing responsibility to private banks as much as possible. (See 4.1) This has contributed to the remarkably low write-off ratio of bad loans for JDB. (Table 1) It seems almost puzzling at first that a public bank was more effective in enforcing its contracts than its private counterparts. However, these figures alone may not tell a whole story, for as the analyses in 3.2 reveal, (1) the weight of long-term and short-term funds and composition of loan customers were substantially different among these institutions, and (2) private banks have incentives to write off bad loans at an early stage, "taking account of their administration expense related to recovering claims" (JDB[1993], p.134), whereas JDB might hesitate to write off its loans even at a later stage due to the political responsibility its operations owes to the postal savers nationwide. However, it is still a sign of good performance compared to that of other developing countries' experiences.

A JDB-type bank has a potential weakness. Provided that a JDB-type institution is most useful in fostering growth when the economy is still at a relatively early stage of industrialization, it seems plausible to assume that its successful performance will eventually threaten its own reason d'état. One might recall from 3.1 that JDB's purpose was rather generally defined compared to other public corporations, and in fact its programs have gone through many phases. JDB today seems more akin to a social welfare agency than muscle of industrialization, and is also a much smaller entity in terms of its budget relative to the rest of the financial community.[57]

While this might seem like a reasonable degree of flexibility to prevent JDB from becoming useless, a real danger lies behind the fact that repayments of its loans takes decades and constant efforts are needed during this period to enforce the payments. For example, loans to marine transport industry needed to be managed by disciplined bankers until the long repayments period was over. But perhaps it might have been the case that as JDB's nature changed over time, its personnel's mentality also changed from that of prudential bankers to that of government officials. This might have contributed to mismanagement of some of these loans from the past and created moral hazard on the side of borrowers ex post.

For a JDB-type bank, how strong the implicit insurance effect would be seems to depend on its environments. That is, the larger and more active the private commercial banking sector is, the less severe the insurance effect will be, because a JDB-type bank can delegate its interim and ex post monitoring responsibilities to the private banks that are co-lenders. One sure lesson might be to avoid being the sole financier of an entire industry.

---

57. JDB's priority finance items in 1985-present include promotion of employment of disabled people, fee-charging homes for the aged, promotion of Kansai cultural Academy and Research City, etc.. For the share of its loans relative to those of other financial institutions, see Graph 1-3.

An IBJ-type bank, on the other hand, is crucial when the quality of private banks needs improvement, and also when ample public savings is lacking. Important features are:

a. It is exclusively allowed to issue financial debentures.

b. It attracts excellent personnel with high salary and prestige.

c. It serves as principal long-term credit provider and as either the largest lender or the second one next to the principal short-term lender. In the former case it is ultimately responsible for ex post monitoring, and in the latter case the commercial bank is.

d. By doing so it shares information about the firm with other private commercial banks. Namely, while it accumulates expertise in ex ante monitoring and appraisal skills that other banks can gradually learn, the principal short-term lender can keep track of day-to-day transactions of the firm by observing its current account.

e. Its number should be limited to one to several.

f. It can also accumulate expertise in investment banking activities by utilizing their high skills in project appraisals.

The status of IBJ vis-a-vis JDB and city banks in the 1950's-1970's is the model for this type of institution. However, conceptualization of an IBJ-type bank dates back to Meiji era. (See 2.2) In short, the concept of "investment bank" or "universal bank" was modified in Japan at the turn of the century to match its developmental stage, and IBJ embodied what this Japanized investment bank was. That is, Japanese recognized that commercial banks should specialize in short-term loans. But many firms simply could not raise funds in bonds market because of their low credit-rating. Notable exceptions before the 1980's were zaibatsu-firms in the pre-war period, whose bonds were in effect purchased internally rather than in open public markets, and bonds of public or semi-public corporations which often were government-guaranteed. To solve these problems of the lack of reputation of firms and the need to raise large amount of long-term capital for industrialization, an idea of a debenture-issuing bank was employed. as IBJ itself argues,

> "Viewed from the standpoint of enterprises, the bank debentures issued by the long-term credit banks may be regarded as a device whereby the banks can collectively issue bonds and raise equipment funds on behalf of enterprises incapable of issuing such bonds because of their low credit standing." (IBJ[1964], p.7)

This was especially true of overseas markets, where IBJ gradually built reputation and succeeded in selling its own debentures as well as underwriting others'. Commercial banks, on the other hand, could maintain the liquidity of their assets and still meet the need of their clients for long-term finance by purchasing IBJ debentures instead of rolling over their short-term debt.

One benefit of concentrating the business of providing long-term capital in the hands of a few long-term credit banks is for efficient use of scarce human capital. Observing the way in which a city bank acting as main bank and a long-term credit bank acting as the second largest lender[58], one realizes that it is more efficient to let IBJ (for instance) provide its highly concentrated expertise to a large number of firms for which it does not necessarily act as main bank, than to let each commercial bank have a small and mediocre division trying to serve the same role.

In developing countries and TSEs where a strong commercial banking sector is lacking, therefore, IBJ can serve as a prototype of an "elite bank" whose expertise can eventually spill over to the whole banking industry.

IBJ was once financially dependent on the government. It was forced to channel funds to commercially unsound projects for political reasons. A

---

58. Packer[1993] shows that this pattern occurs very frequently whenever the long-term credit bank itself is not the main bank. (See Graph 4)

lesson to be learnt from this is that an IBJ-type institution should be financially independent of the government funds while still maintaining its public nature. One-time purchases of its financial debentures by the public funds tied to specific sector (e.g. utility, railroad, etc.) could be harmless as long as it has other sources of funds such as commercial banks, insurance companies, households, etc..

Given the historical and developmental reasons for IBJ-type institutions, it is no surprise that the Japanese companies today are relying less and less on bank loans and more and more on bond issues as they earned a renowned reputation worldwide. Subsequently, IBJ's role has and will become more and more like that of an American-type investment bank or an European-type universal bank toward those established companies. But this current phenomenon undermines neither importance of the historical role it played in the Japanese economy, nor its applicability to other countries whose developmental stage resembles that of Japan in the past. Rather, the Japanese experience shows that an IBJ-type institution is quite effective in (1) transforming maturity of funds and providing them safely and efficiently to capital-intensive industries, and (2) promoting high-quality financial expertise and transferring it to other financial institutions.

VI. CONCLUDING REMARKS

In the post-war era, Japan experienced a few decades of high-growth period during which long-term capital was mainly provided by banks rather than through capital markets. Among those banks which channeled long-term capital to industrial sectors, two financial institutions, the Industrial Bank of

Japan and the Japan Development Bank, stood out to be truly effective in shaping the pattern of the nation's economic development.

Those two institutions significantly differed in their origins, mission, legal nature, and actual roles that they served. IBJ was created as a private, debenture-issuing bank at the turn of the century when low credit-rating of domestic companies prevented them from raising capital in overseas securities markets. Its mission was to mobilize long-term capital collectively by issuing financial debentures and then allocate the mobilized capital efficiently to various industrial sectors so as to spur dynamic economic progress. Its post-war mission also included alleviating commercial banks' burden by replacing their rolled-over short-term debt with long-term loans.

JDB was set up by the government in 1951 in the midst of over-loan problem of commercial banks and the growing "gap" in credit availability between export-oriented industries and infrastructure industries. Its mission was to fill the "gap" by channeling public funds into infrastructure, or priority, sectors.

While IBJ was frequently coerced to make risky loans on government orders in the pre-war era, it gained a much stronger operational autonomy in the post-war era, owing to its accumulated expertise in project appraisals and securities business, as well as to its success in cultivating long-term, multi-dimensional relationship with many corporate clients.

JDB also retained high operational autonomy relative to that of development banks in other countries. Its status as a "bank" as opposed to "corporation" kept its day-to-day business independent of ministerial supervision. This, combined with high-quality skills transferred from IBJ, made JDB quite an effective development bank in its early years. It also had a relatively high degree of budgetary discipline, because it borrowed its funds from the government's Trust Fund Bureau which managed the savings deposited at the world's largest postal savings bank.

IBJ's neutral, non-keiretsu nature, coupled with its close ties with numerous firms either as main bank or as the 2nd largest lender and principal long-term capital lender, made IBJ an excellent negotiator, arbitrator, and communicator within the business community. Consequently, in addition to the quantitatively impressive loan activities, it was also quite actively involved in a number of restructurings and mergers, both at individual firm level and at industry level. Such ability of IBJ benefitted both industries and the rest of financial community.

JDB, on the other hand, utilized its neutral position to best supplement the private sector. That is, in addition to supporting infrastructure sectors, it also helped phasing out of declining industries such as coal industries to which private banks could not lend rationally. Performance-based criteria were generally used for loan decisions even in dealing with these depressed industries. Other measures were also taken to secure its loans and delegate interim and ex post monitoring responsibilities to its co-lenders.

In addition to those development banks' mission to alleviate commercial banks' burden, more extensive and mutual complementarities seemed to exist among loans made by IBJ, JDB, and commercial banks, or more specifically, main banks. For example, a city bank that was main bank for a firm was requested by JDB to monitor its JDB-specific transaction. Given its limited size and specialization in project finance, JDB fully utilized private sector's capability. The city bank, on the other hand, benefitted from having their client obtain cheap credit from JDB.

Both types of development banks, if successfully set up, can be tremendously beneficial to the coordination of credit allocation mechanism in developing countries or TSEs. However, there seems to be a difference in the duration of their institutional importance. That is, while a JDB-type bank is very effective when the economy is still building infrastructure and the structure of the economy is relatively simple, its role will soon be over once those big national projects are done. As noted by Mayer[1989],

> "The objective of economic development should be the promotion of the growth of firms not the initiation of projects.---It is corporate organization not project activity that distinguishes developed from developing countries.---Economic growth is therefore crucially reliant on the structure and quality of financial institutions and it is towards an improvement in those [Screening, monitoring and rewarding of individuals] that most attention should be directed."(p.25)

An IBJ-type bank, on the other hand, seems to have a much longer-term mission and play a more crucial role in affecting other organizations in the economy. In its early years, its specialized nature induces the typically scarce human capital to be efficiently concentrated and utilized intensively. Later, as it accumulates more and more expertise, it then plays a role in encouraging the rest of the financial community to catch up with itself, while constantly innovating its techniques itself. Meanwhile, it serves as a nurturing creditor to the rest of the business community, monitoring and cultivating its growth. As the economy matures and more and more firms begin to rely less on bank loans, as it happened in Japan in the 1980's, it can then utilize its neutrality and information network to serve as a arbitrator / consultant. In order to achieve such a developmental path, an IBJ-type bank can serve as a great asset to those developing economies.

APPENDIX : FINANCIAL INSTITUTIONS IN JAPAN[1]

1.	Bank of Japan	Central Bank organized under the Bank of Japan Law.
2.	All Banks	Member Banks of the Federation of Bankers Associations of Japan, etc..
	(1) City Banks	Daiichi-Kangyo Bank, Sakura Bank(ex-Mitsui Taiyo Kobe Bank, Mitsubishi Bank, Asahi Bank(ex-Kyowa Saitama Bank), Sanwa Bank, Sumitomo Bank, Daiwa Bank, Tokai Bank, Hokkaido Takushoku Bank, all of which are formed under the Bank Law, and Bank of Tokyo, which is formed under the Foreign Exchange Bank Law.
	(2) Regional Banks	Member Banks of the Association of Regional Banks.
	(3) Trust Banks	Mitsui Trust, Mitsubishi Trust, Yasuda Trust, Toyo Trust, Chuo Trust, Nippon Trust, & Sumitomo Trust, which are formed under the Bank Law.
	(4) Long-Term Credit Banks	Industrial Bank of Japan, Long-Term Credit Bank of Japan, and the Nippon Credit Bank, which are formed under the Long-Term Credit Bank Law.

3. Government Financial Institutions

(1) The Japan Development Bank
Established under the Japan Development Bank Law in 1951.

(2) The Export-Import Bank of Japan
Established under the Export Bank of Japan Law in 1951.

(3) The Small Business Finance Corporation
Established under the SBFC Law in 1953.

(4) The People's Finance Corporation
Established under the PFC Law in 1949.

(5) The Housing Loan Corporation
Established under the HLC Law in 1950.

(6) The Agriculture, forestry and Fishery Finance Corporation
Established under the AFFFC Law in 1953.

(7) The Hokkaido and Tohoku Development Corporation
Established under the HTDC Law in 1956.

(8) The Japan Finance Corporation for Municipal Enterprises
Established under the Local Public Enterprise Finance Corporation Law in 1957.

---

1. Categories 2-(2), 6, and 7 are simplified because detailed complexity of these categories is of little relevance to the paper. For details, see Bank of Japan Economic Statistics Annual.

(9) The Okinawa Development Finance Corporation
Established under the ODFC Law in 1972.

(10) The Small Business Credit Insurance Corporation
Established under the SBCIC Law in 1958.

(11) The Environmental Sanitation Business Finance Corporation
Established under the ESBFC Law in 1967.

4. Government

(1) Trust Fund Bureau, Ministry of Finance

Through March, 1951	Under the Deposit Bureau Deposit Law.
Since April, 1951	Trust Funds Bureau under the Trust Fund Bureau Law.

(2) Postal Savings, Postal Transfer Savings

(3) Postal Life Insurance and Postal Annuity

5. Foreign Banks in Japan

6. Financial Institutions for Small Business

(1) Shinkin Banks	Urban Credit Associations under the Shinkin Bank Law.
(2) The Shoko Chukin Bank	Under the Law Concerning the Central Bank of Commercial and Industrial Cooperatives.
(3) Labor Credit Associations	Under the the Labor Credit Association Law.

7. Financial Institutions for Agriculture, Forestry and Fishery

(1) The Norin-Chukin Bank	The Norinchikin Bank under the Central Cooperative Bank of Agriculture and Forestry Law.
(2) Agricultural Cooperatives	Agricultural Cooperatives under the Agricultural Cooperatives Law.
(3) Fishery Cooperatives	Under the Fishery Cooperatives Law.

8. Securities Finance Institutions

(1) Securities Finance Companies
Nippon S.F.C., Osaka S.F.C., and Chubu S.F.C..

(2) Securities Companies
Under the Securities and Exchange Law.

9. Insurance Companies

Life Insurance and Non-life Insurance Companies.

Teranishi, Juro, "Financial System and the Industrialization of Japan: 1900-1970", Banca Nazionale del Lavoro Quarterly Review, No.174, Banca Nazionale del Lavoro, 1991.

Ueda, Kazuo, "The Industrial Bank of Japan and Public Financial Institutions", mimeo., January 1993.

The World Bank, World Development Report 1989, Financial Systems and Development, World Development Indicators.

Vittas, Dimitri & Wang, Bo, "Credit Policies in Japan and Korea---A Review of the Literature", Working Papers 747, The World Bank, 1991.

Yoshino, Naoyuki, "History and the Role of Post Office savings and the Role of Government financing in Japan".

III. ANNUAL REPORTS & LAWS

Nihon Kaihatsu Ginko (JDB), Annual Reports[various years].
---the Japan Development Bank Law [promulgated March 31, 1951].
---Articles of incorporation of the Japan Development Bank.

Nihon Kogyo Ginko(IBJ), Annual Reports[various years].
---"Outline of Bond Market in Japan and Securities Activities of the Industrial Bank of Japan", 1964.
---"Long-Term Credit Banking in Japan".

Nihon Choki Shinyo Ginko (LTCB), Annual Reports[various years].

_____________, Nihon Kogyo Ginko Shichi-Ju Go Nenshi, Vol.1&2, 1982.

Japan Development Bank, "Nihon Kaihatsu Ginko to Sono Ayumi", JDB, Tokyo, 1958.

_____________, Policy-Based Finance : The Experience of Postwar Japan, JDB, Japan Economic Research Institute, 1993.

Kauffman, Stuart A., The Origin of Ofder, Oxford University Press, 1993.

Kawaura, Akihiko, "Identification of the Size and Direction of the Post-War Credit Allocation in Japan", December 1991.

Kim, Dong-Won, and Nam, Sang-Woo, "The Main Bank System in Korea", mimeo., April 1993.

Mayer, Colin, "The Assessment: Financial Systems and Corporate Investment", Oxford Review of Economic Policy, vol.3, No.4, i-xvi, 1987.

_____________, "Myths of the West: Lessons from Developed Countries for Development Finance", WPS301, PPR Working Papers, The World Bank.

Ministry of Finance, Japan, Showa Zaiseishi--Shusen Kara Kowa Made, vol.3, (America's occupation policy), Toyo Keizai Shinpo-Sha,1976.

Okazaki, Tetsuji, "Senji Keikaku Keizai To Kigyo (Planned Economy under War and Companies)", Modern Japanese Society, 4, pp.363-398, Tokyo University, 1991.

Oosono, Tomokazu, Hitome De Wakaru Kigyo Keiretsu to Gyokai Chizu, Nihon Jitsugyo Shuppan Sha, Tokyo, 1991.

Packer, Frank, "The Role of Long-Term Credit Banks within the Japanese Main Bank System", mimeo., 1993.

Patrick, Hugh, "Japan: 1868-1914", in Cameron, Rondo, editor, Banking in Early Stages of Industrialization, Oxford University Press, 1967.

Qian, Yingyi, "Lessons and Relevance of the Japanese Main-Bank System for Financial System Reform in China", mimeo., 1993.

Sakakibara, E., R.Feldman, and Y. Harada, The Japanese Financial System in Comparative Perspective, Joint Economic Committee, Congress of the U.S., 1982.

Stiglitz, Joseph E., "Social Absorption Capability and Innovation", CEPR Publication No. 292, November 1991.

________________, and Uy, Marilou, "The Allocation of Capital in East Asia", mimeo., World Bank,.1993.

Suzuki, Yoshio, Money and Banking in Contemporary Japan, Yale University.Press, New Haven, 1980.

BIBLIOGRAPHY

I. DATA SOURCES

Economic Statistics Annual, Bank of Japan, various years.

Tokei Souran, Soumu-Cho, various years.

Nihon Tokei Nenkan (Japan Statistical Year-Book), Nihon Statistical Association, 1949.

II. LITERATURE

Aoki, Masahiko, "Historical Conditions for Monitoring Roles of the Japanese Main Bank System", mimeo., Stanford University, 1993.

____________, Information, Incentives, and Bargaining in the Japanese Economy, Cambridge University Press, 1988.

Aoki, M. and Sheard, Paul, "Quasi-Debt Contracts, Budget Breaking, and Reciprocal Delegated Monitoring in the Japanese Main Bank System," CEPR Working Paper, Stanford University, 1991.

Bank of Japan, The, Nihon Ginko Hyaku-Nen Shi (Centennial History of the Bank of Japan), vol.1-6, 1983.

Bhatt, V.V., "Main Bank System in Japan and the Lead Bank Systems in India: A Preliminary Comparative Evaluation", mimeo., April, 1993.

Cole, David C., and Park, Yung Chul, Financial Development in Korea, 1945-1978, Harvard University Press, Cambridge, 1983.

Corbett, Jenny, and Mayer, Colin, "Financial Reform in Eastern Europe: Progress with the Wrong Model", "Oxford Review of Economic Policy, Vol.7, No.4, 1991.

De Long, Gradford, "The Great American Universal Banking Experiment", *The International Economy*, pp.68-79,January/February, 1991.

Diamond and Raghavan, Aspects of Development Bank Management.

Economist, "Japan lets the world's biggest bank pedal its own bike," pp.83-4, December 1986.

Goldsmith, Raymond W., The Financial Development of Japan, 1868-1977, Yale University Press, New Haven, 1954.

Hanema, Otohiko, Nakayama Sohei---Nihon No Rashinban, Gekkan Pen-Sha, Tokyo, 1975.

Industrial Bank of Japan, Nihon Kogyo Ginko Goju-Nenshi, 1957.

Table1

Trends in Write-Off Ratios of Bad Loans by Business Type

(Unit: %)

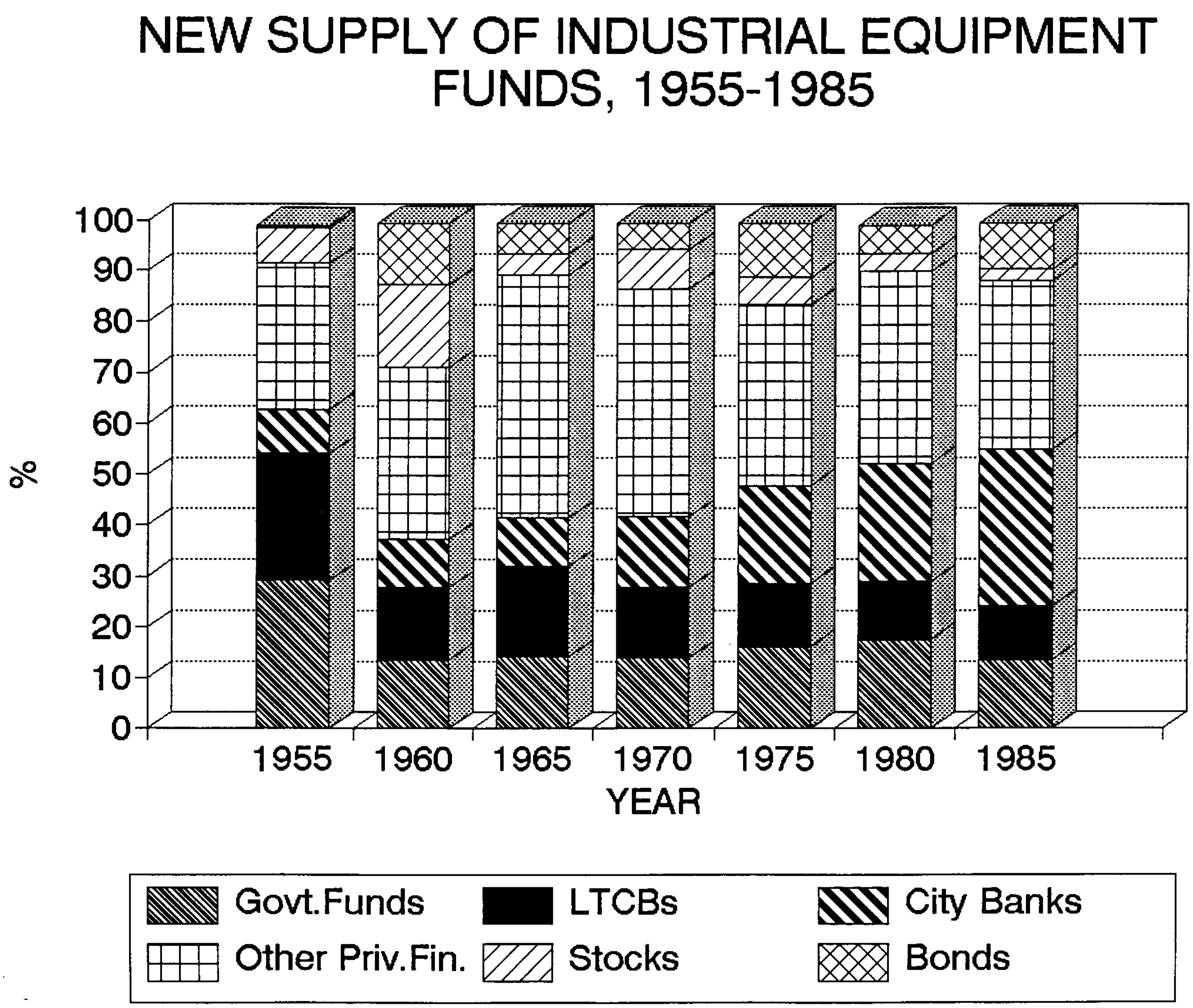
	Ordinary Banks	Trust Banks	Industrial Bank of Japan	Japan Development Bank
FY1951-55	0.25	0.27	0.11	0.09
1956-60	0.14	0.23	0.07	0.01
1961-65	0.04	0.03	0.01	0.01

Note: The Write-off Ratios of Bad Loans =

$$\frac{\text{amount of write-offs during the term (annual rate)}}{\text{average loans outstanding during the term}} \times 100$$

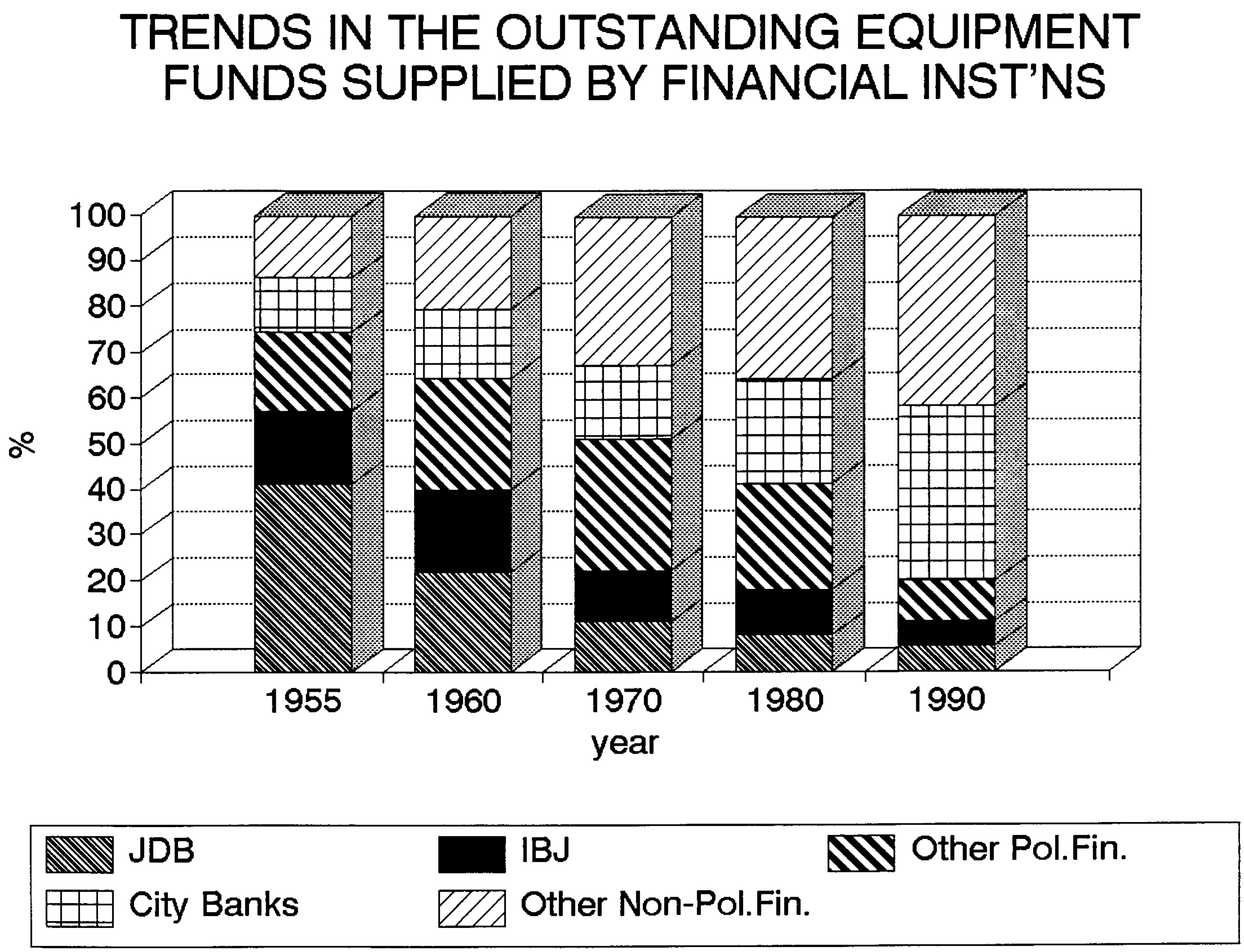
Sources: Federation of Bankers Associations of Japan (1951-66 each period), Zenkoku Ginko Zaimu Shohyo Bunseki (Financial Statements of All Banks in Japan). Japan Development Bank (1976), Nihon Kaihatsu Ginko Nijugonen Shi (25 Year History of the Japan Development Bank).

Graph1



Sources: The Bank of Japan, Economic Statistics Annual[various years].

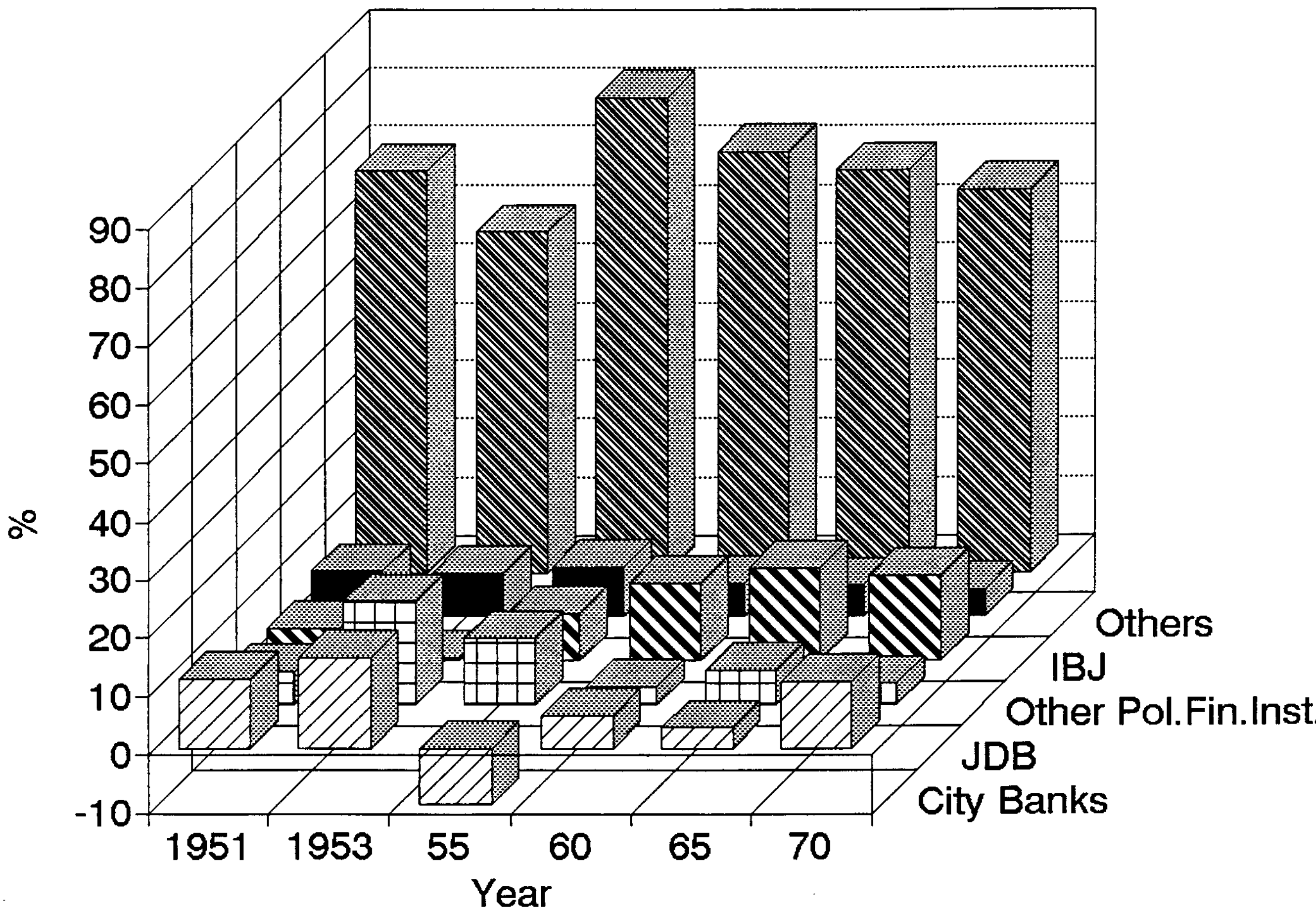
Graph2



Sources: The Bank of Japan, Economic Statistics Annual[various years], *Tokei Souran*[various years].

Graph3

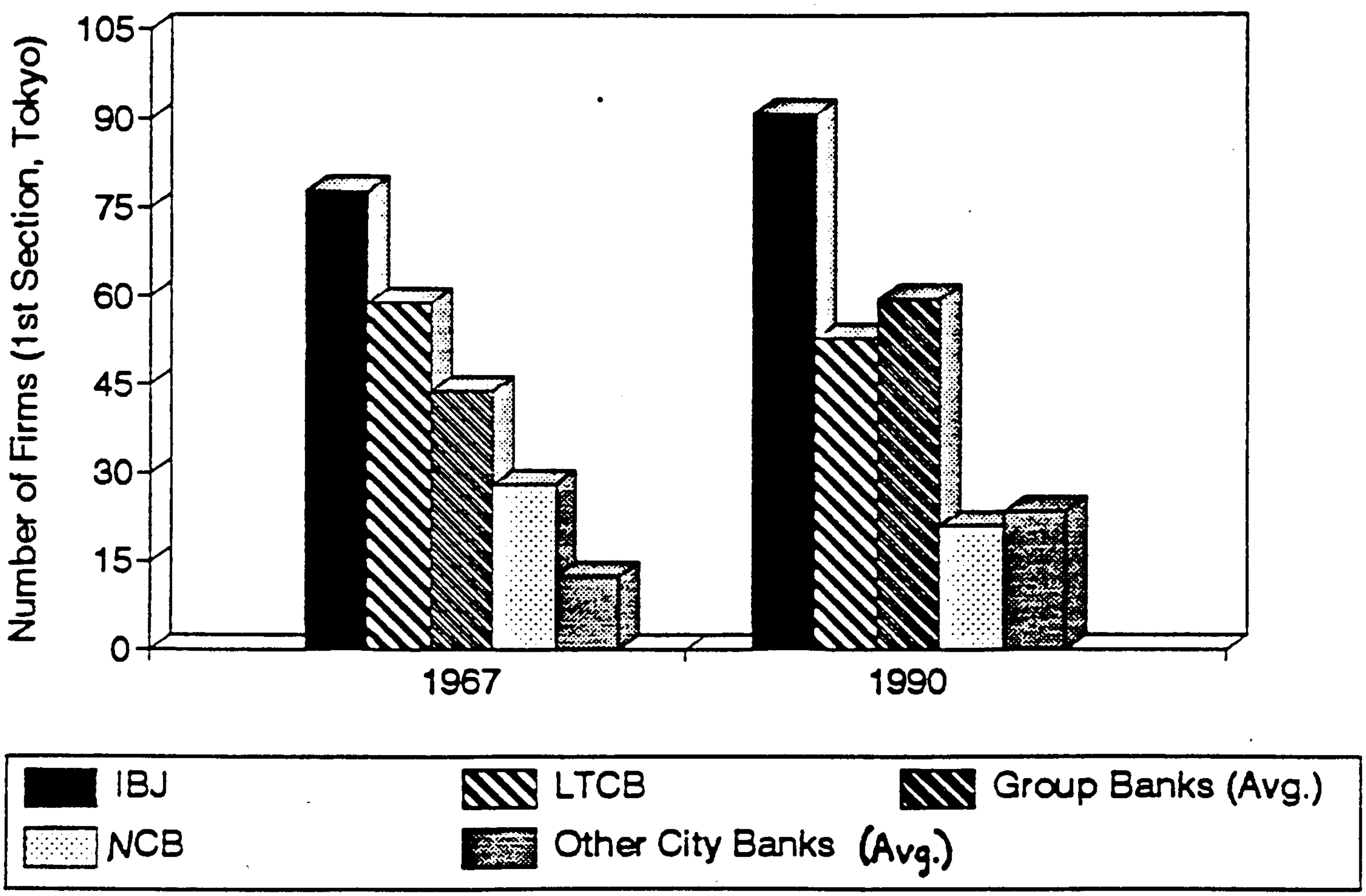
Net Supply of Industrial Equipment Funds (Net Increase/Decrease)



Sources: Kawaura[1992], IBJ[1982], BOJ Economics Statistics Annual [various years].

Graph4

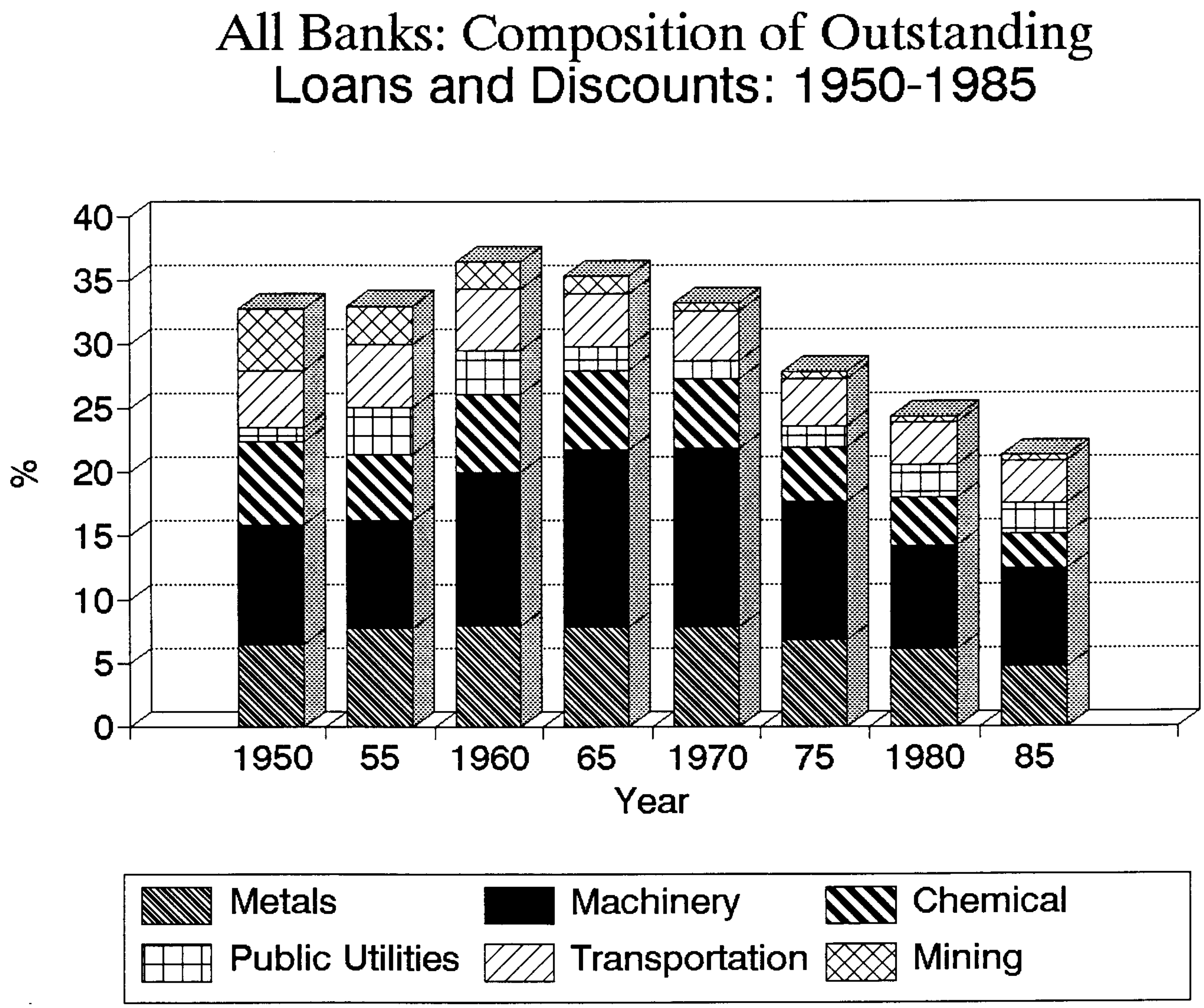
The Position of 2nd Largest Lender: L-T Credit Banks and Others



Sources: Keiretsu no Kenkyu, 1968, 1991.

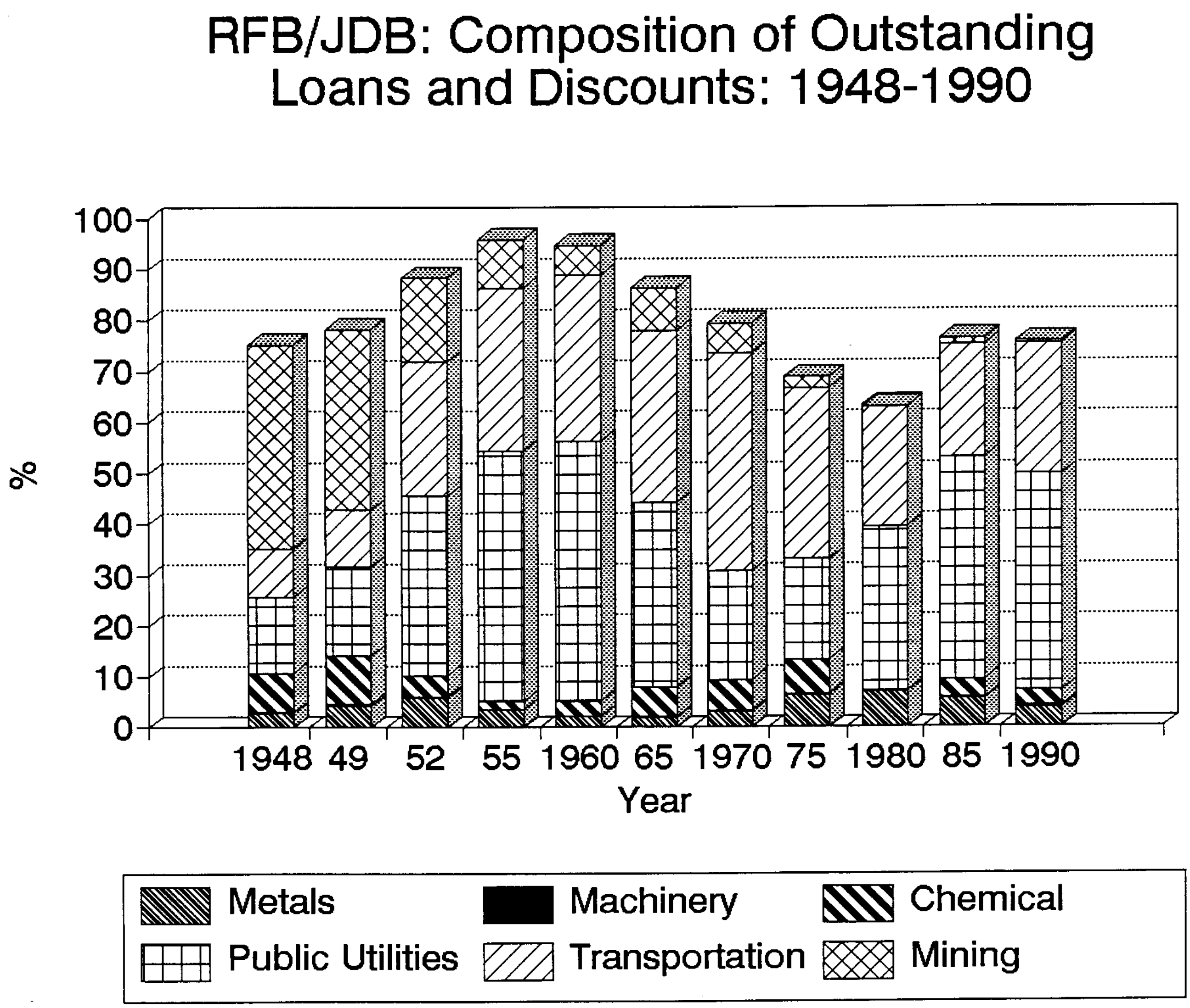
Note: The loans of group city and trust banks, insurance and trading companies are aggregated when calculating the position of the "group bank."

Graph5



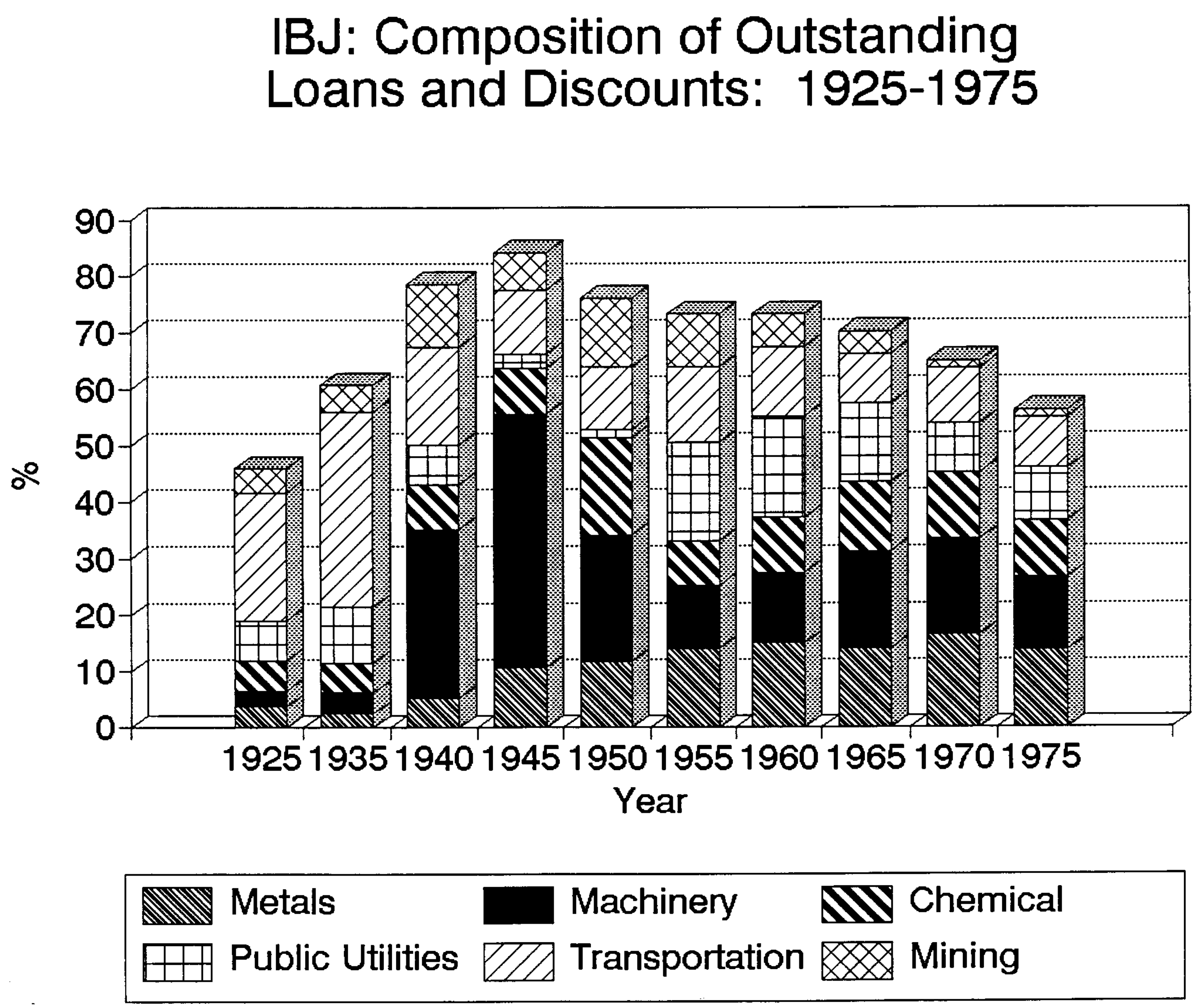
Sources: The Bank of Japan, Economic Statistics Annual[various years].

Graph6



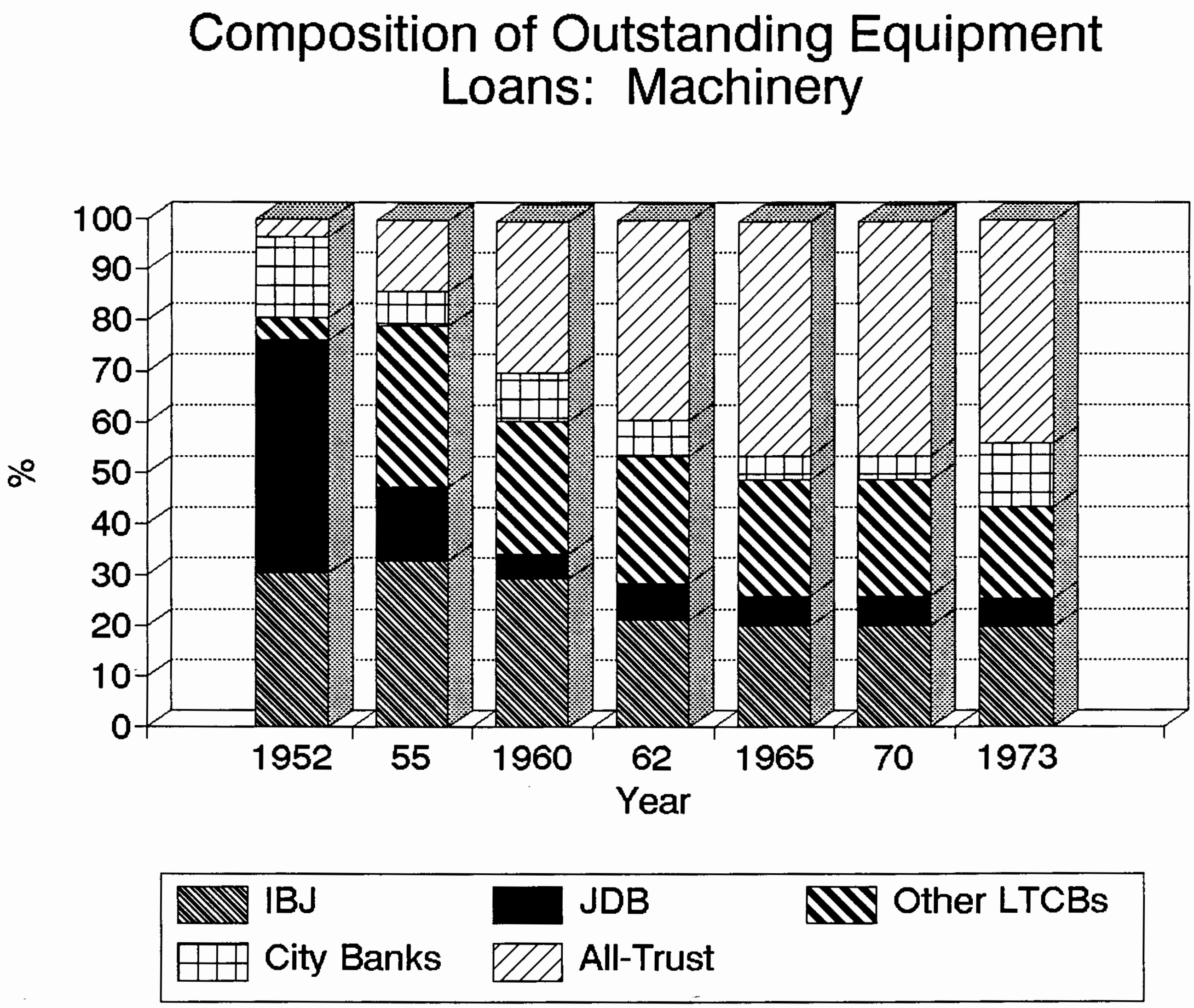
Sources: The Bank of Japan, Economic Statistics Annual[various years].

Graph7



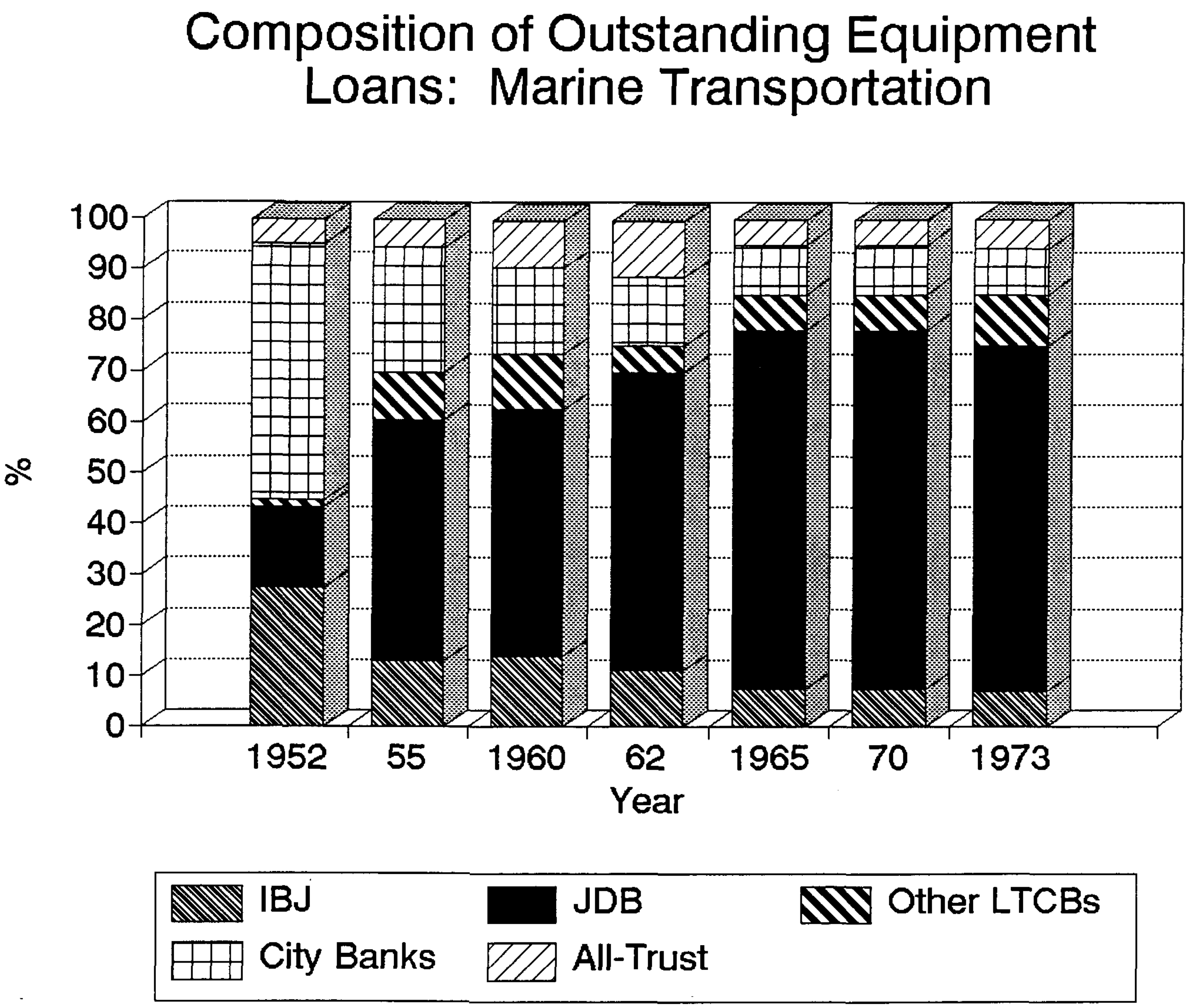
Source: IBJ[1982].

Graph8



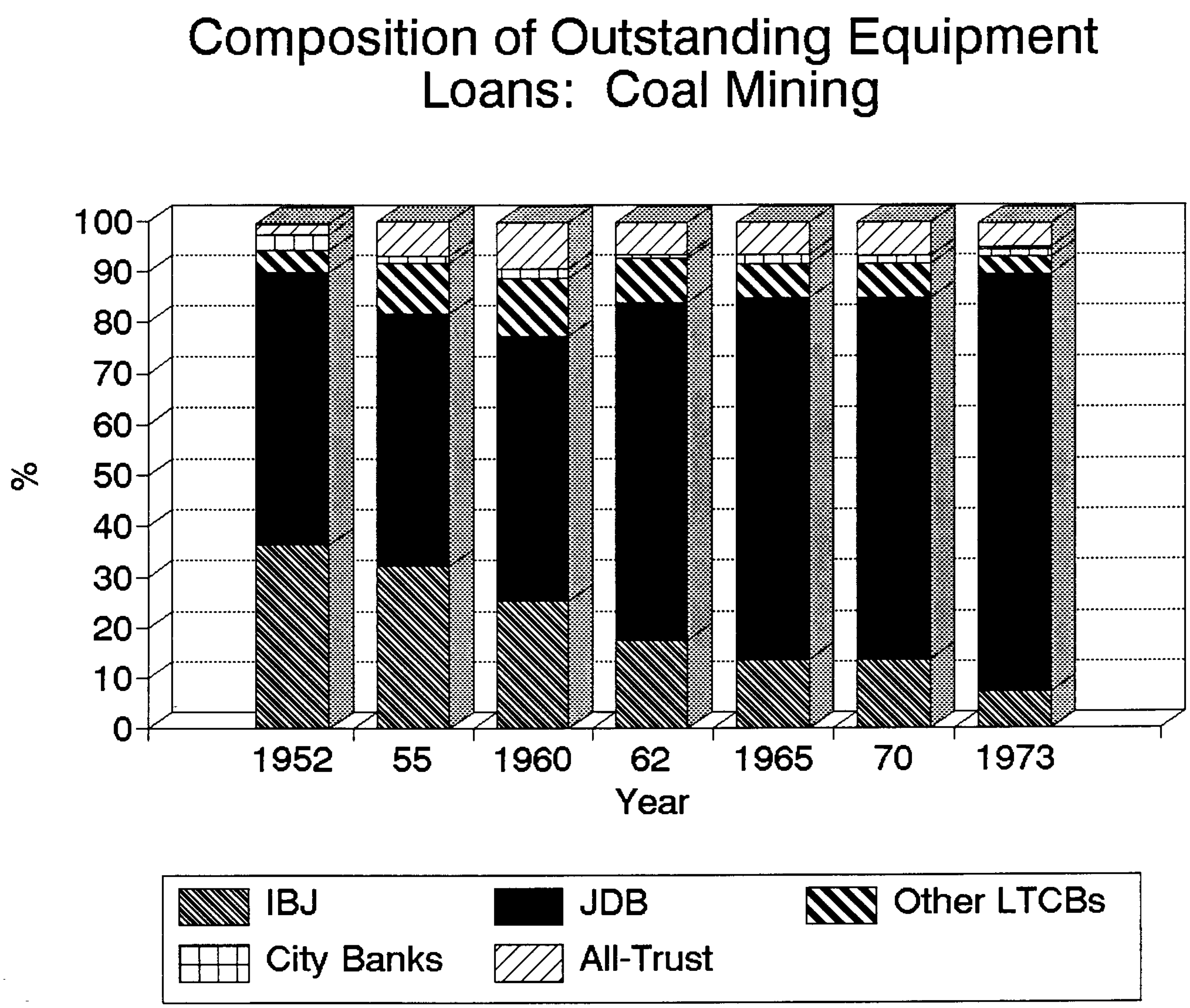
Source: IBJ[1982].

Graph9



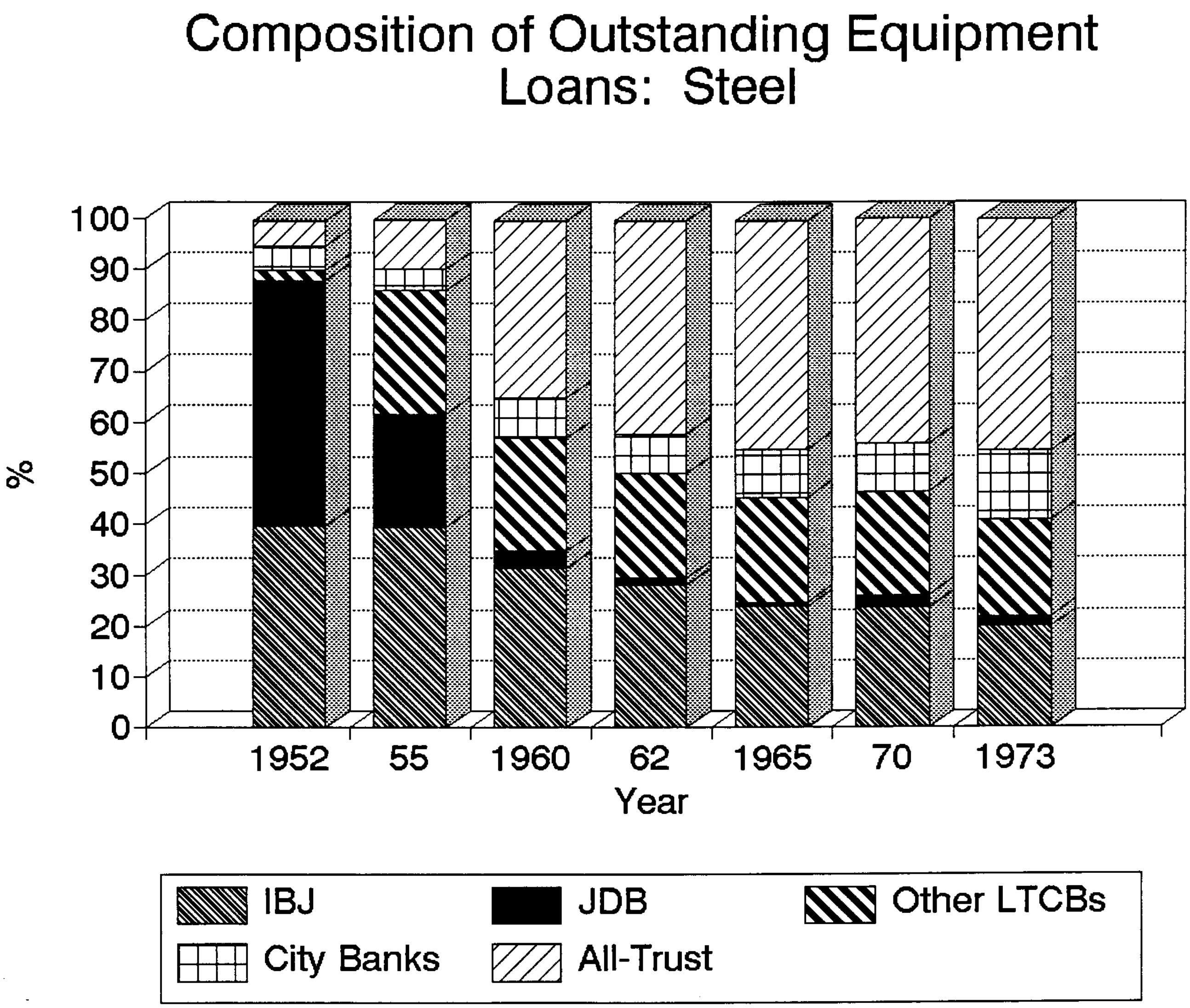
Source: IBJ[1982].

Graph10



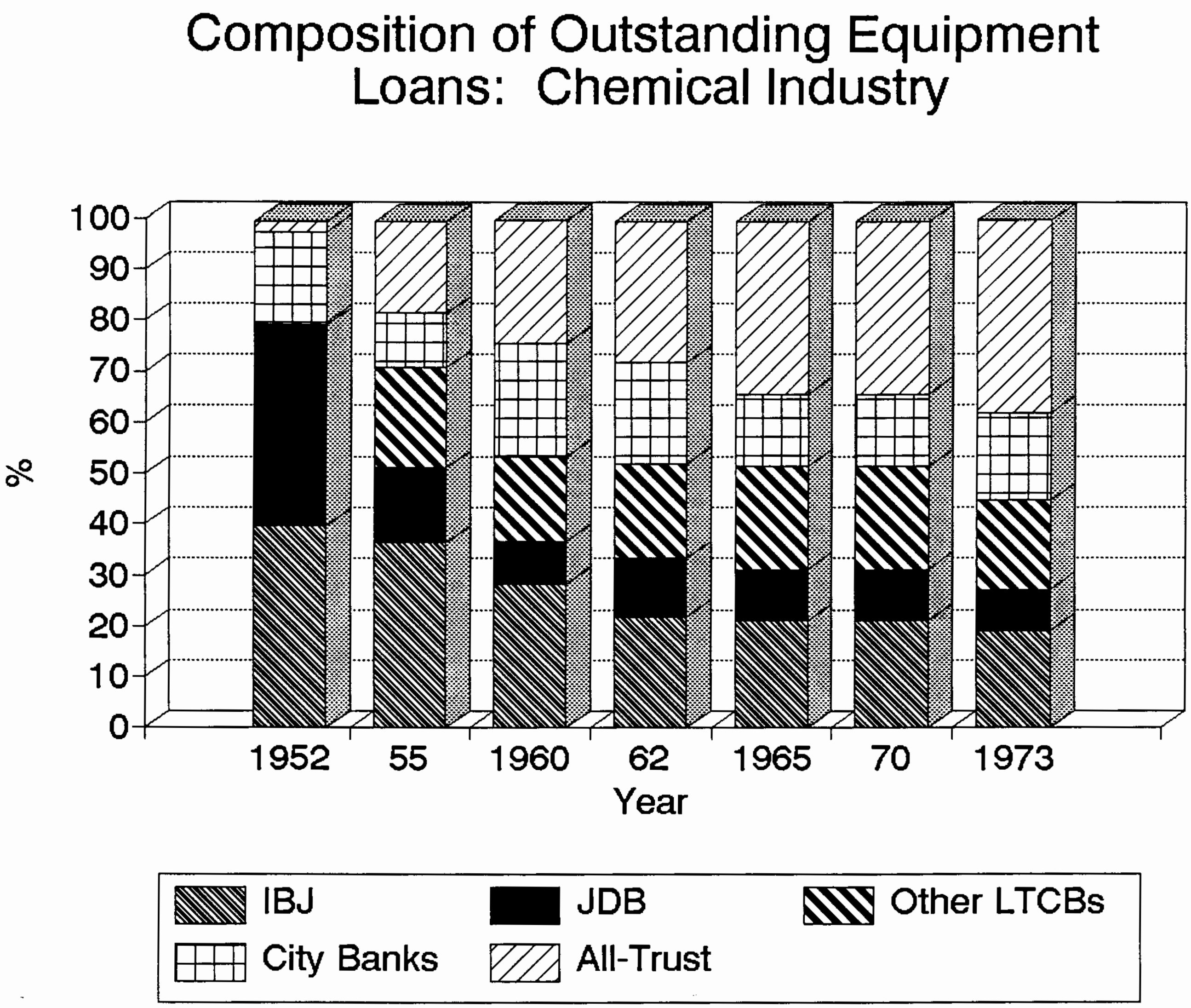
Source: IBJ[1982].

Graph11



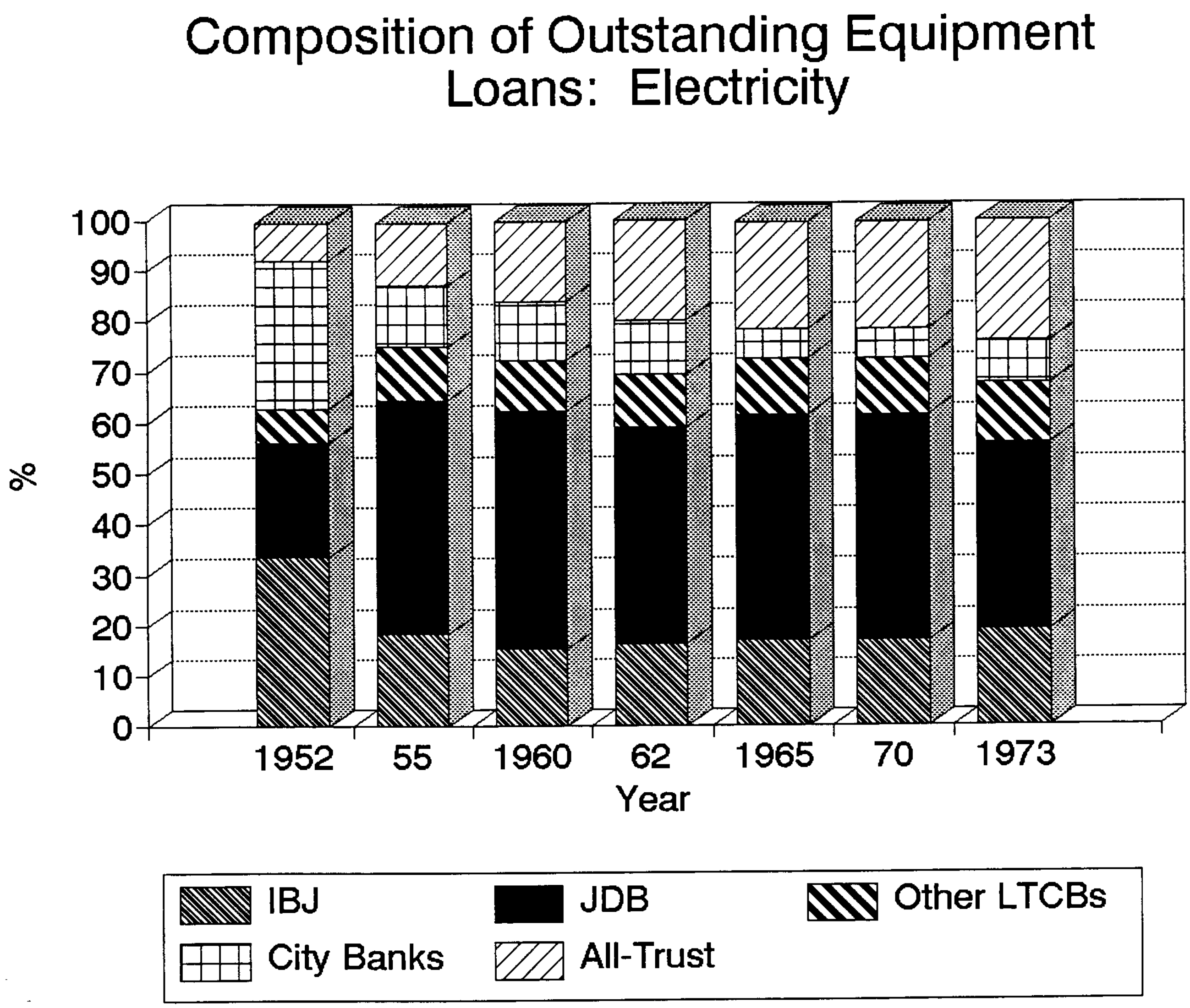
Source: IBJ[1982].

Graph12



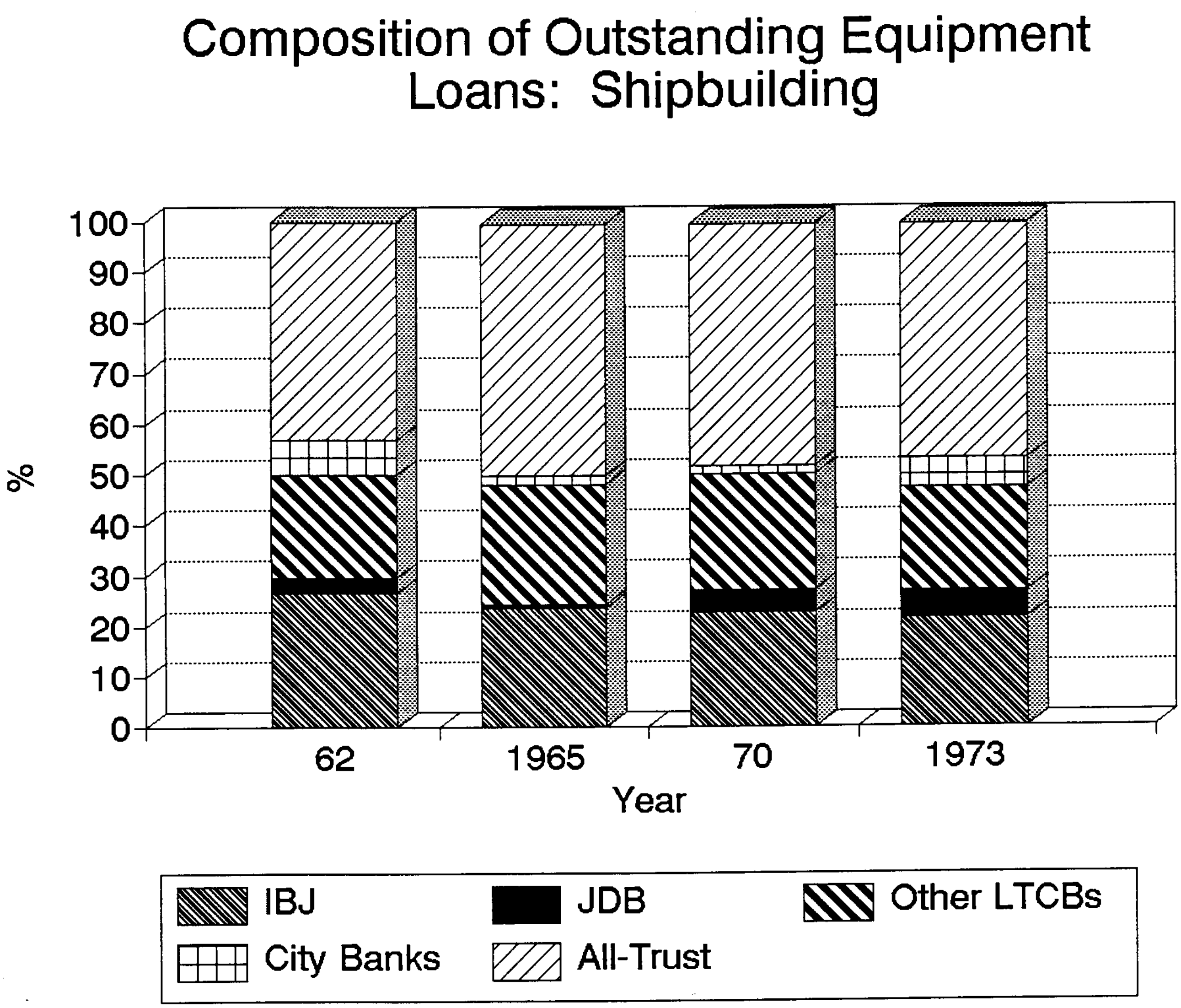
Source: IBJ[1982].

Graph13



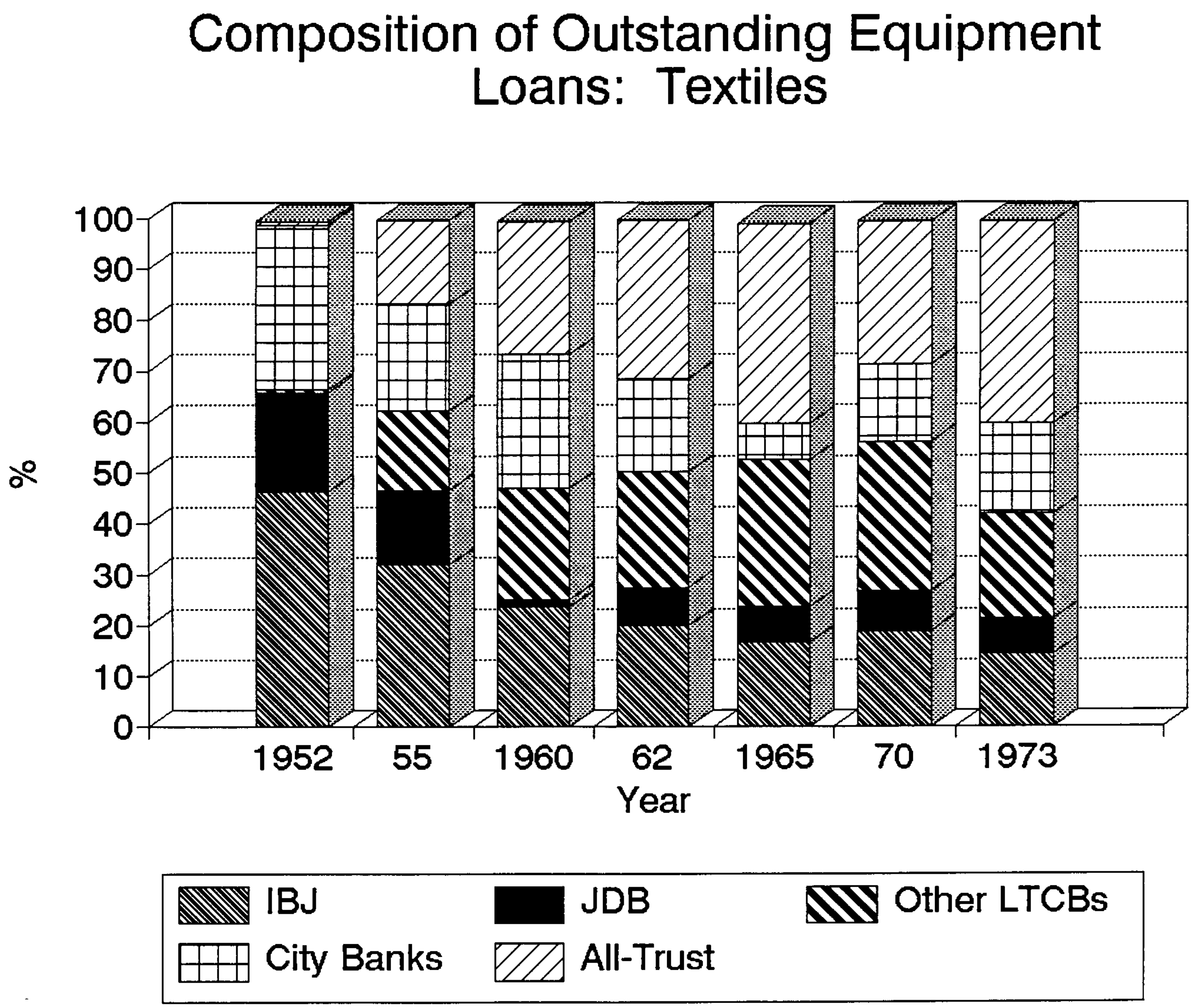
Source: IBJ[1982].

Graph14



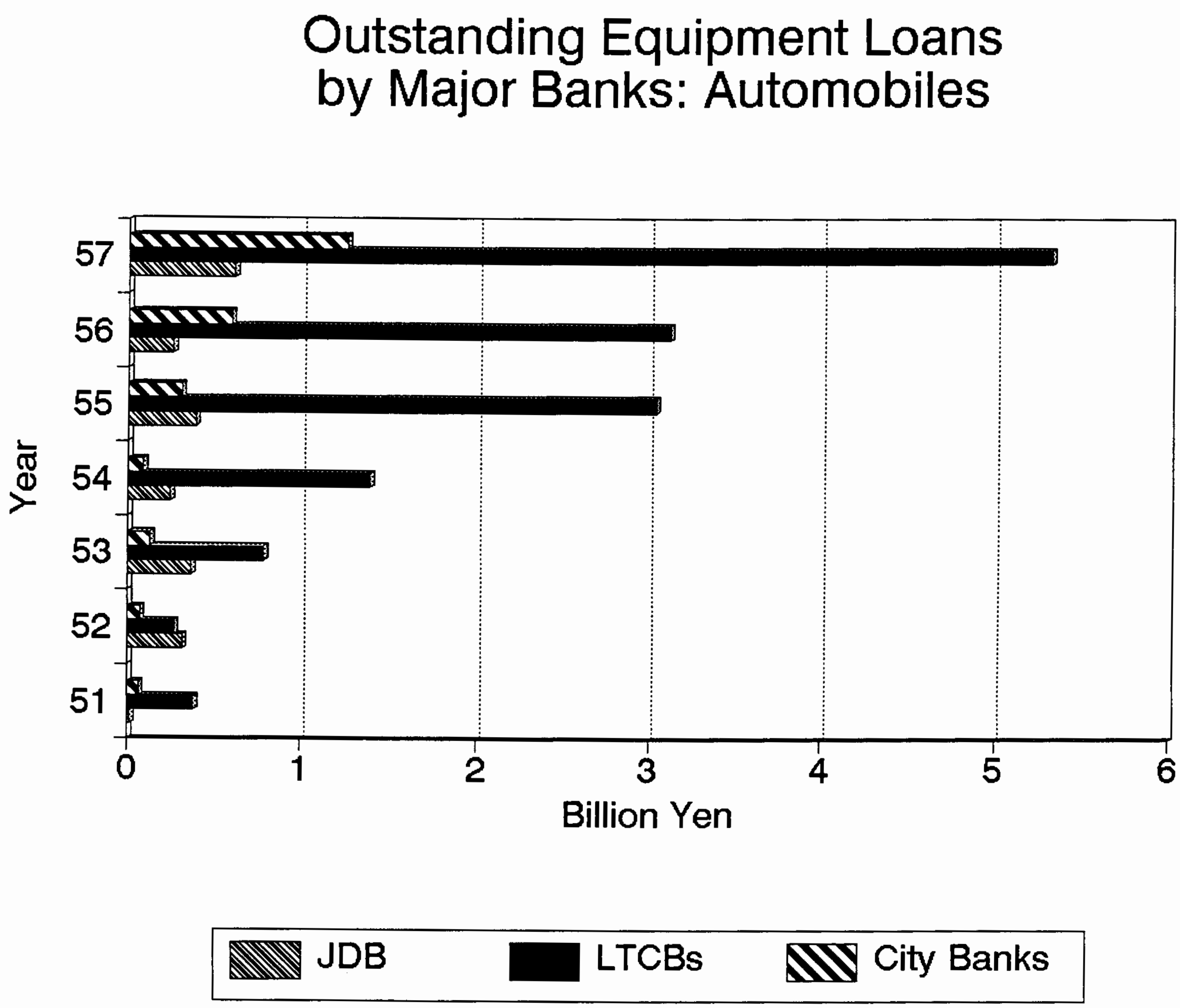
Source: IBJ[1982].

Graph15



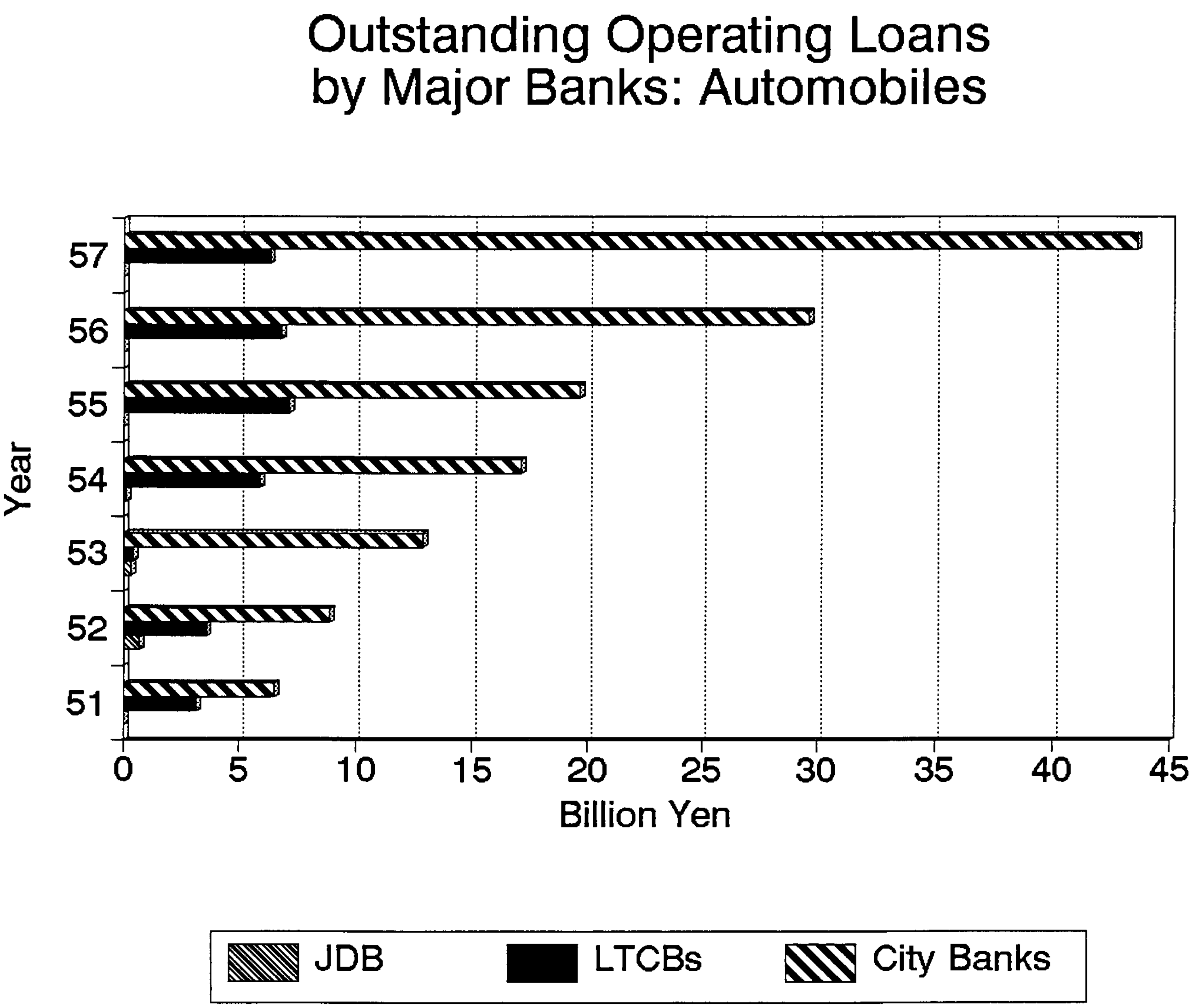
Source: IBJ[1982].

Graph16



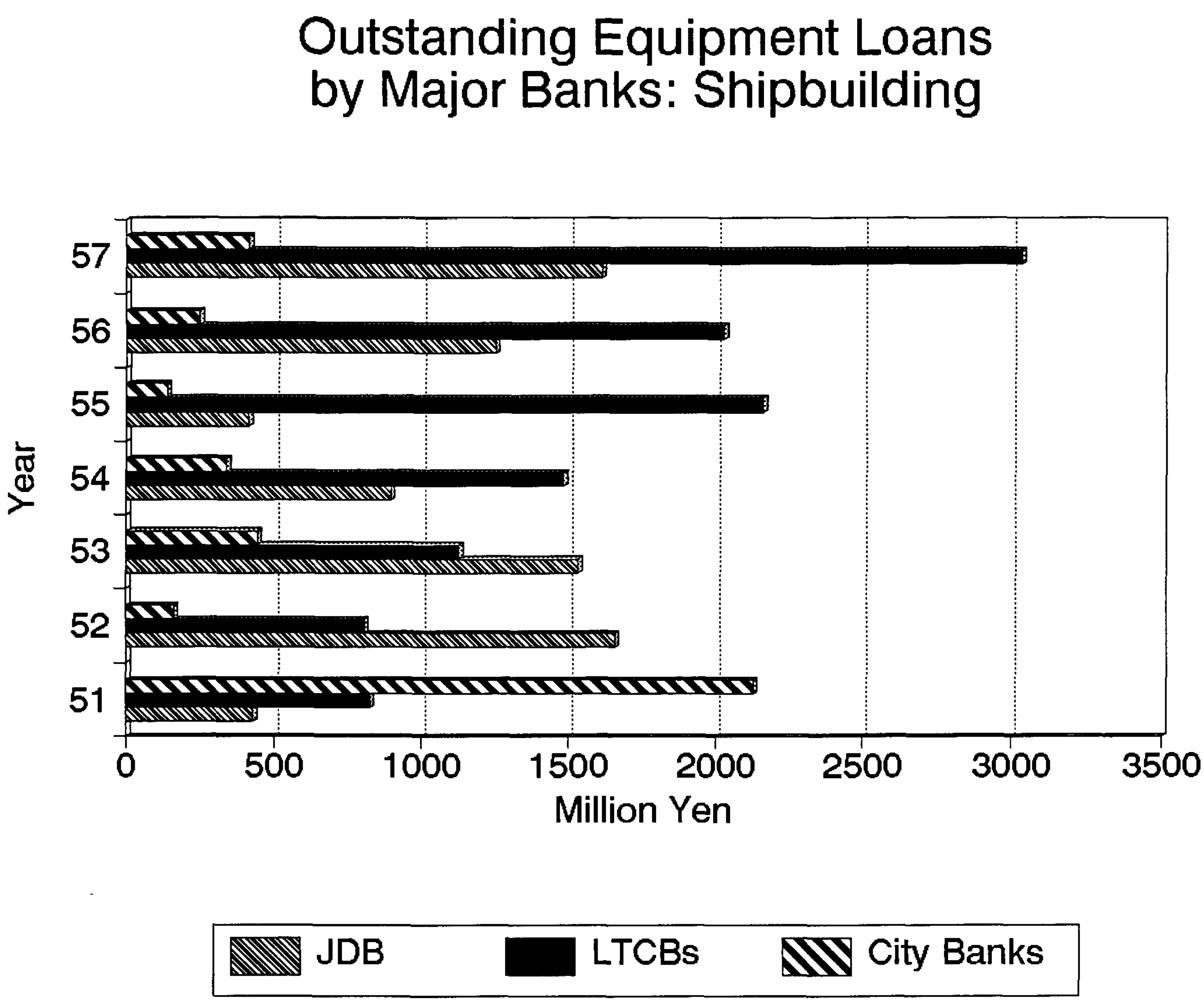
Sources: BOJ Economic Statistics Annual, Japan Statistical Year-Book[various years].

Graph17



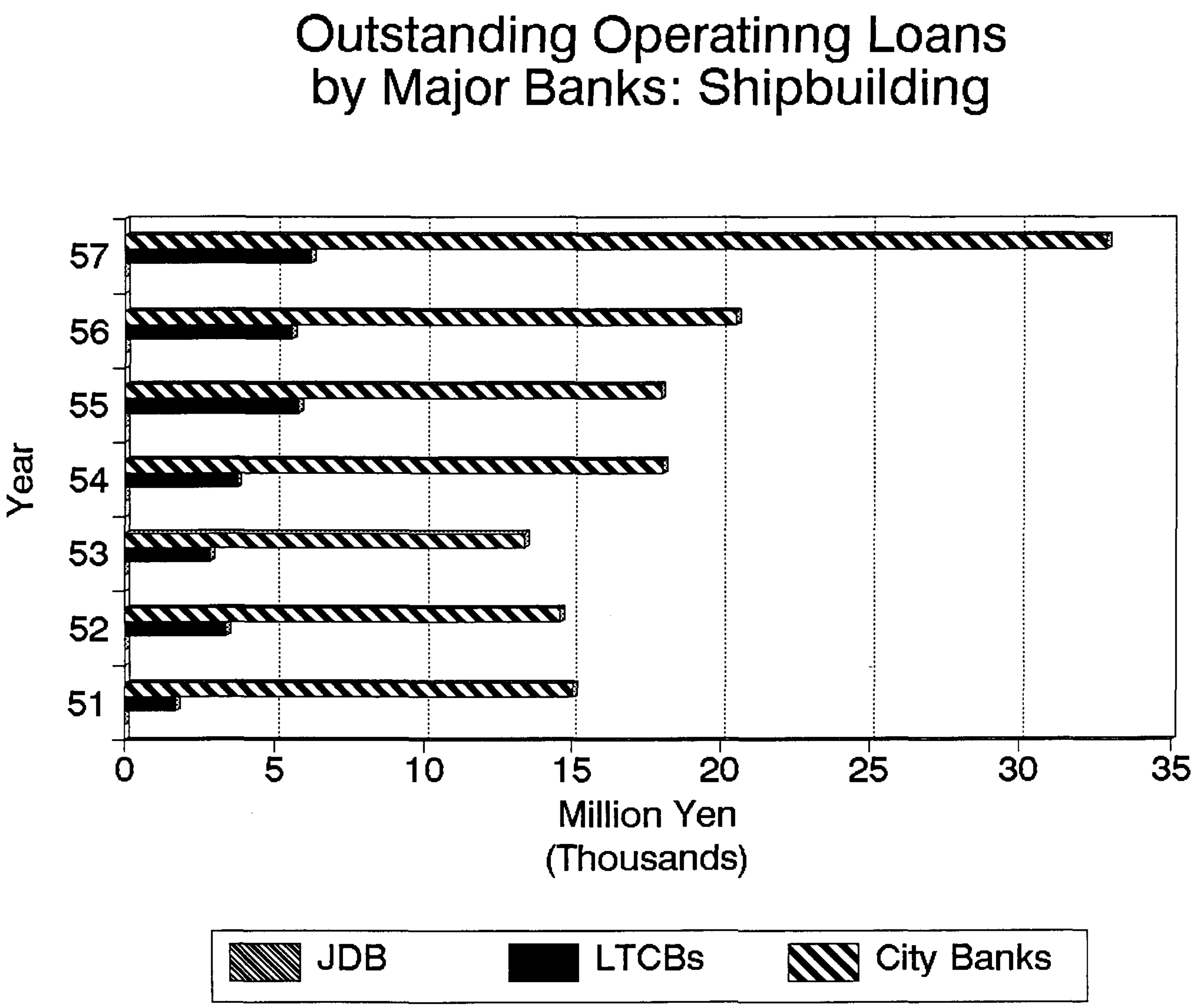
Sources: BOJ Economic Statistics Annual, Japan Statistical Year-Book[various years].

Graph18



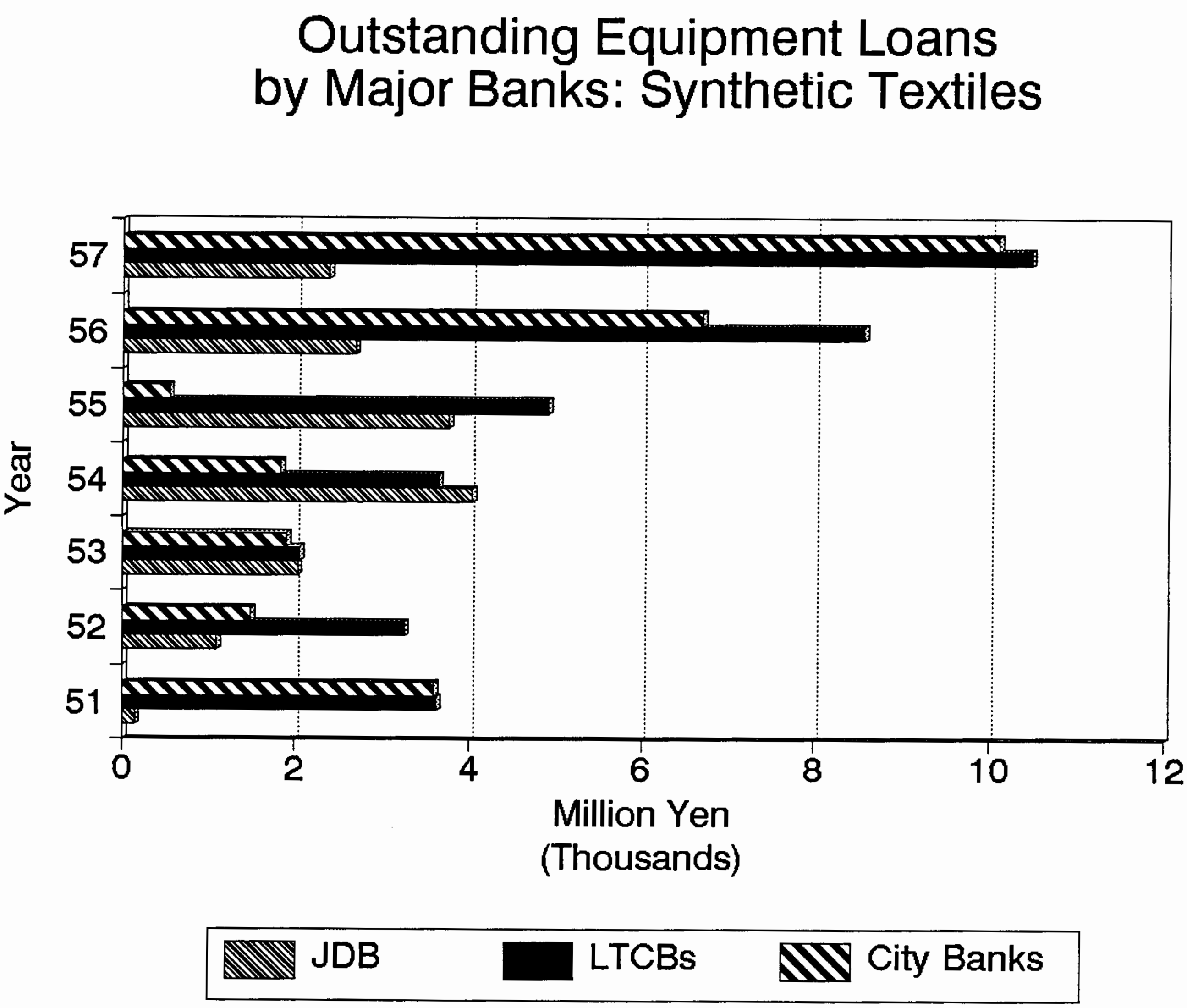
Sources: BOJ Economic Statistics Annual, Japan Statistical Year-Book[various years].

Graph19



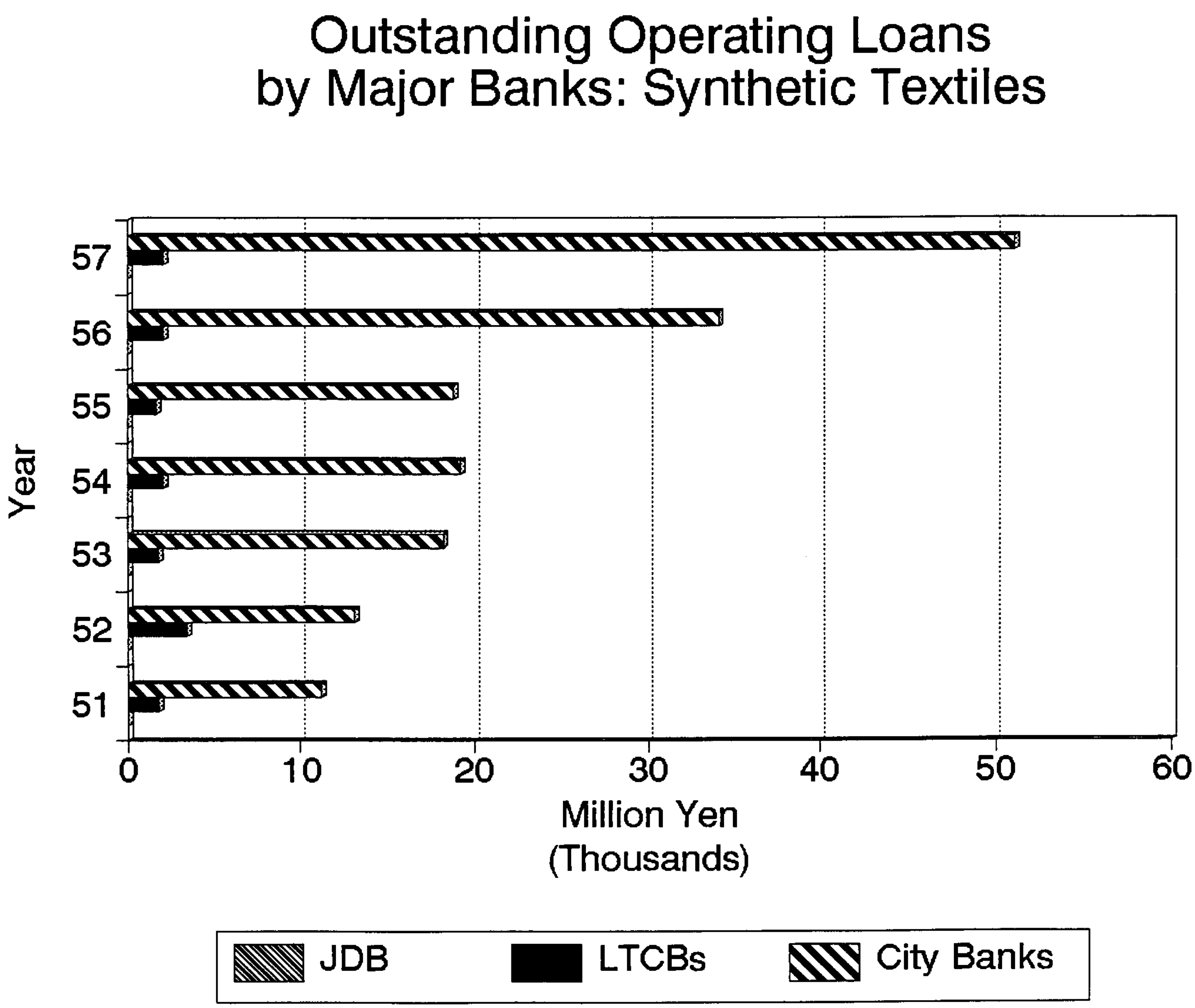
Sources: BOJ Economic Statistics Annual, Japan Statistical Year-Book[various years].

Graph20



Sources: BOJ Economic Statistics Annual, Japan Statistical Year-Book[various years].

Graph21



Sources: BOJ Economic Statistics Annual, Japan Statistical Year-Book[various years].