

Division of Research
Graduate School of Business Administration
The University of Michigan

August 1983

Issues in Japanese Corporate Finance

Working Paper No. 340

Adrian E. Tschoegl*
The University of Michigan

FOR DISCUSSION PURPOSES ONLY

*This paper was prepared for the Corporate Finance Module of the Japan Society's program for introducing Japan related materials into the business school curriculum. I would like to thank Vladimir Pucik and Hiroyuki Imai for helpful comments on earlier drafts. As I have not incorporated all their comments and suggestions, all errors of fact or interpretation remain my own.

Issues in Japanese Corporate Finance

1. Introduction

In this paper we examine two apparently distinctive Japanese practices, bank-business groups and high financial leverage. We show that the practices are understandable in the light of existing economic theory and that there is no further requirement for a profound insight into the Japanese culture. Our primary intent is to familiarize the reader sufficiently with the practices, their rationales, and their implications so that he or she will be comfortable using them as examples in finance classes to better teach finance. To de-mythologize Japanese finance is at most a secondary goal.

Many countries provide interesting cases for analysis, but none has an equal topicality and importance as Japan. It has the second largest non-Communist economy in the world (in terms of GNP) and is the first non-Western country to achieve developed country status. Not only is Japan's economy large and rapidly growing, but some of its industries have scored such striking export success (notably steel, shipbuilding, automobiles, consumer electronics, and most recently, semi-conductors) that the concern among the other developed countries is how to cope with "the Japanese Challenge" (to paraphrase Jean-Jacques ServanSchreiber (1965)). In attempting to understand the secret of Japanese success many commentators have focused on one or more of the phenomena which are the subject of this paper.

The two topics which we will discuss are: 1) bank-business groups and 2) high financial leverage. The roles of government policies and bank-firm relationships are continuing themes with relevance to both subjects. With respect to both of our topics we will first describe Japanese practice, next analyze it, and finally, assess its implications for the international competitiveness of Japanese firms.

2.0 Bank-Business Groups

2.1 The Importance of Groups in the Japanese Economy

Japanese industry appears to many observers to be dominated by a small number of extremely large business groupings. These groupings emerged after World War II with the tacit approval and support of the Japanese government authorities. The groupings are made up of formally independent parts. Typically, each group has one or more companies in each of the major sectors of the economy, and includes banks, insurance companies, and a general trading company. Table 1 presents data showing the relative importance of the six largest industrial groups in the Japanese economy in 1970 and 1981. Table 2 gives the sectoral distribution of the major companies belonging to each of the six.

Several conclusions are immediately apparent from the two tables. First, the six represent a large portion of the Japanese economy. Their importance, though, is apparently slightly declining by all measures except sales. Second, they are capital intensive in the sense that their share of total assets is some three times that of employment. Third, there are at least two groups represented in all but one sector, and each group spans the majority of the sectors. This last phenomenon is often called "one-settism," i.e., the practice of each group having a full set of companies.

The tables understate the importance of groupism in the Japanese economy for two reasons. First, they reflect only the activities of the companies in each group's "presidents' conference," a phenomenon we discuss below. Each of the firms included commands from several scores to several hundreds of affiliates, each of which, in turn, has many subsidiaries. The six industrial group companies jointly hold more than 10 percent of the outstanding

stock in over 1000 companies. In addition, the groups contribute executives to lesser corporations in large numbers.

The second reason the tables understate the role of groups is that the six represented do not exhaust the total number of major groups. There are a number of other bank-centered groups such as the Tokai and Industrial Bank of Japan, to name two, and a number of industrial company-centered groups, such as Nippon Steel, Toyota Motors, and Hitachi.

2.2 The Historical Background

These post-World War II groups have their origins in the prewar zaibatsu which played an important role in carrying out the industrial modernization programs of the Japanese Government following the Meiji Restoration (1868). These prewar groups were of three types: the general zaibatsu such as Mitsui, Mitsubishi, and Sumitomo which had holdings in the financial, industrial, and commercial sectors; the financial zaibatsu, such as Yasuda and Nomura, which were centered on the financial sector but participated in industry; and the industrial zaibatsu such as Asano, Ohura, and Furukawa.

Typically, these zaibatsu featured a single holding company which owned the shares of all affiliated firms, and held absolute control over their personnel and management decisions. The zaibatsu was a closed organization ultimately owned by a family whose head was the sole proprietor of the holding company. Production tended to be oriented towards the manufacture of producer goods. The zaibatsu were important politically being associated in many cases with political parties or factions.

After the war, the Occupation authorities sought to punish the zaibatsu families and to break up what they saw as a military-industrial concentration of power that had promoted the conflict. In 1947 a Deconcentration Law and an

Anti-Monopoly Law were passed which dissolved the zaibatsu and made holding companies illegal. The families that owned the holding companies were effectively dispossessed, and much of the senior management was forced into retirement.

However, the antimonopoly policy lost its impetus quickly even before Japan regained its independence in 1952. Many of the companies began to reaffiliate, often under their prewar names. However, these new groups, now referred to as keiretsu, differ from the prewar zaibatsu in a number of important ways.

The companies are linked together by multiple ties of cross-ownership, credit, management, and marketing, but the common ownership provided by the zaibatsu families and their holding companies no longer exists. Banks still may own shares in business firms (and vice-versa), but are limited to 10 percent of the outstanding shares (5 percent after 1987). In fact, the interlocking shareholdings appear to be far below prewar levels. Moreover, loans to any one company are limited to 20 percent of capital. This forces companies to borrow from several banks, though the group bank remains the main or lead bank. The most important difference remains the absence of autocratic central control.

The keiretsu are coordinated through clubs of company presidents (shachokai) which meet regularly and make decisions about policy or personnel of the member companies and guide the groups in other ways, but on a noncompulsory basis. The companies that form the presidents' conferences were independent companies headed by relatively young men who voluntarily joined together for reasons of mutual benefit and interest, but were unwilling to subordinate themselves totally to any one of their number. This independence is reinforced by impediments to mergers and acquisitions.

Legal barriers to mergers and acquisitions arise from the Anti-monopoly Law, though the logic of anti-trust is not as strongly believed in or pursued in Japan (or the rest of the developed world) as it is in the United States. In fact, even in the U.S. the concept is coming under critical scrutiny (e.g., Bittlingmayer, 1982). Cultural values also inhibit mergers and acquisitions, and while some observers make much of these, it is not unambiguously clear that they are any stronger in Japan than elsewhere. The most important barrier to takeover is the cross-holding of stocks.

The two great waves of stock interchanges between firms occurred in the early 1950s and the early 1970s. In the first period, as already mentioned, the keiretsu emerged from the remains of the pre-war zaibatsu. The second wave occurred after the 1971 liberalization of capital flows into Japan when managements feared acquisition by foreign firms.

By exchanging shares between firms, the managers could insure that a blocking percentage of the outstanding equity was in friendly hands, thus mutually assuring their independence. It is interesting to note from Table 3 that inter-group cross-holdings are minimal. The cross-holding was often accomplished by new issues of stock (one source or type of so-called Third-Party issues) at discounts from market value, which is consistent with a need to induce or subsidize the behavior.

To summarize, the common impression outside Japan that the bank-business groups of today are identical with the centralized zaibatsu of the prewar period is incorrect. The keiretsu companies do engage in preferential buying, selling, financing, and personnel exchange, and have interlocking share-holdings and directorships, but, at least at the top, the coordination is based on voluntary association, and interfirm relationships no longer exhibit the old exclusiveness.

2.3 Why Groups

In the preceding section we argued that the existing groups that have arisen from the dissolution of the old zaibatsu represent a recognition of mutual benefit from association. Because they are voluntary conglomerates, the usual rationales of economies of scale or scope, or managerial growth maximization do not apply. Nor do we have to resort to explanations of sentimental attachments, or to group solidarity reflecting the traditional, strong loyalties of family relations. Instead, we argue that the Japanese case fortuitously points out the role of internal capital markets as a rationale for conglomeration.

Conglomerate groups, while not the dominant or even major form of industrial organization in the U.S., are a very common phenomenon throughout the world. If anything, it is the United States which is atypical in the relative scarcity of such groups. It is the loose association of the keiretsu, not the zaibatsu, which is unique about the Japanese experience, and this is a consequence of the historical accident of the Occupation.

One can make a general case for the optimality of (partial) internalization of the capital allocation process within the firm or group, on the basis of transactions costs in the dissemination of information, and in the area of reducing incentives for opportunistic behavior. However, the efficiency gains are likely to be limited and most significant with respect to related business (Teece, 1982).

In the case of Japan, as in many other countries, the rationality of internal capital markets derives from government policies which restrict the external one (Leff, 1976). Governments frequently direct the development of the economy by providing subsidized loans directly or indirectly through holding interest rates below market clearing levels, and through establishing

credit allocation policies. These situations create an opportunity for groups to gain access to the official financial system. They then can allocate the funds they gain according to relative rates of return, without regard to the sectoral priorities of the government planners. Much of what has been described as peculiarly Japanese financial behavior may be just such a response to suppressed external capital markets.

The postwar period in Japan has been characterized until recently by an elaborate system of interest rate controls and credit allocations (Japanese Financial System, 1978, p. 13). The government imposed its own system of ceilings on loan and deposit rates, later replaced by voluntary ceilings based on negotiations among the Federation of Bankers' Association, the Ministry of Finance, and the Bank of Japan. The government's intention was to keep down the cost of capital to Japanese business firms in order to promote economic development and improve their competitive position in world markets. The ceilings were, therefore, generally below equilibrium rates. To keep loan rates low, deposit rates were also restrained. When interest rates are not free to balance loan supply and demand, credit rationing (i.e., quantitative allocation) is inevitable.

One can exaggerate the rigidity of the loan rate ceilings. Some loans, (small or long term) were not regulated. In addition, the Japanese banks often required heavy compensating balances which raised the real interest rate. Had the compensating balances not usually earned interest, the amounts held would presumably have been lower. Finally, the rate controls were not always observed. Nevertheless, the ceilings were sufficiently binding to provide an impetus for the formation of groups. The affect was even more pronounced during the recurring periods of tight money.

The first, and most obvious consequence of a suppressed financial system is that when the bank cannot allocate by price, it will use other criteria. One logical criterion is the bank-client relationship. All other things being equal, the more a bank knows about a client, the more willing it will be to lend to him since the risk deriving from uncertainty will be less. Thus the bank will favor those clients who cooperate more closely with it, and the clients have an incentive to cooperate more fully with one particular bank to improve their access to the cheap funds. Another logical lending criterion is size of the borrower. The bank will tend to favor larger firms over smaller ones because of the generally lower risk of the former.

The second consequence is that banks will prefer to lend to firms in which they are shareholders. In this way they can recoup some of the borrower's profit on the difference between the equilibrium and the official rate. The limitation on shareholdings referred to earlier only limits this effect.

Thirdly, periodically alternating periods of tight and easy money created the opportunity for what have come to be known as self-reinforcing contracts (Telser, 1980 and Axelrod, 1981). During tight money periods banks will continue to lend first (and sometimes even at a loss) to those of their clients who did not shop around when money was easier. Similarly, firms will accept some lack of competitiveness in good times in return for the continued ability to borrow at relatively normal interest rates during bad times. This behavior is common even in markets where interest rates are not controlled. Thus it is not surprising to find that there is a great deal of anecdotal, case, and even statistical evidence showing that group banks have allocated credit on a preferential basis to their affiliated firms, and particularly during tight money periods (Alhadeff, 1975).

The discussion so far has focused on government financial policies as sources of reinforcement for the bank-firm ties. Next we turn to their role in fostering interfirm relationships.

After World War II, the Japanese government followed a policy of encouraging investment. The instruments used included favorable tax treatment for investment in equipment, the distribution of state funds, taxes on dividends but not on capital gains, special investments in basic industries, and a host of other bureaucratic and administrative aids. One of the Bank of Japan's most important tools was what has come to be known as window guidance (madoguchi shido). This involved direct, frequent contact between the BOJ and the commercial banks with the former setting bank-by-bank quotas on loans to customers. In addition to limiting total bank credit, the BOJ directed the banks' sectoral allocations not only in general, but even on occasion down to the level of credit to particular companies (Prindl, 1981, p. 19).

These policies had a number of consequences. One was that each group had an incentive to establish at least one firm if possible in favored industries in order to gain access to the funds. Another consequence was that firms in unfavored sectors, or small or unfavored firms were often starved for expansion funds even if they faced profitable opportunities. Groups could establish companies in such sectors, however, and fund them through trade credit on intragroup sales, particularly through the trading companies (JEI Report, 1981, p. 3). Thus if the government wished to encourage automobile production, but phase out textile production, even though the latter still faced many profitable opportunities, groups with firms in both sectors could transfer funds between them directly and through other group firms. Firms without group connections would have been limited in their ability to compete because of the difficulty they faced in raising capital.

Finally, even if credit allocation had never been an important aspect of the Japanese scene, the suppression of interest rates alone could have been sufficient to give rise to extensive groupism. Smaller firms, with little or no access to bond and equity markets, and only weak access to bank credit, had every incentive to seek affiliation with larger firms with access, and to use them as their bankers.

This behavior would involve large firms in general, and especially the general trading companies (sogo shosha). In some industrial sectors such as textiles, the trading companies act as purchasing and sales departments for their affiliated producers, and at the same time provide trade credit. They pay bills due on a short-term basis but allow receivables to lag somewhat longer. They fund the resulting gap of two to three months by borrowing from banks. Thus the trading companies act as financial intermediaries between banks and industrial companies. Many of the large industrial companies follow similar practices with their subsidiaries.

Table 4 confirms the proposition that Japanese nonfinancial firms engage in extensive intermediation. Trade credit is a much larger proportion of the assets of the nonfinancial sector in Japan than in the United States. Thus we get the following stylized picture of financial intermediation. The government channeled low-cost funds to the major banks, directly and indirectly. These, in turn, lent the funds to large, affiliated companies. The large companies, including the trading companies, then lent the funds to their subsidiaries and affiliates.

2.4 Consequences of Groupism

Some observers of Japan's formidable success in world markets argue that this is somehow due to the power of these giant bank-business groups. We

argue that the groups have contributed, but for reasons having little to do with their power.

As we noted when first referring to Table 1, the importance of groups in the Japanese economy may well be declining. To the degree that our argument is correct that the primary rationale for groups is the creation of internal capital markets, this development is only to be expected.

Since the early 1970s the Japanese government has pursued a hesitant but continuous policy of financial market deregulation. It has eased restrictions on access to foreign capital markets by Japanese firms, and started to free interest rates. These measures have helped nongroup firms to survive by raising capital abroad, thus undermining any exclusive hold of group firms on particular sectors (Dufey, 1982, p. 50). Moreover, because interest rate liberalization reduces the benefits of group membership, its effect is opposite to any power benefits membership might bring. The evidence that groups are getting weaker is more consistent with membership being a response to suppressed external capital markets than an independent source of strength. Nevertheless, the groups have contributed to the success of Japanese firms in two ways.

The first is that they have enabled firms to mitigate the harm of bureaucratic errors in credit allocation or the effect of credit ceilings. Whenever guidance or planning resulted in the misdirection of funds, the groups' internal capital markets could re-allocate the funds to higher value uses. When periodic tight money and credit ceilings hampered the growth of all firms, groups again could insure that the firms with the best prospects remained the least effected.

The second contribution is attributable to the various practical, legal, and cultural barriers to takeover and merger which enabled the group firms to

retain their independence, and the groups themselves to remain numerous and distinct. The result was a highly rivalrous business sector in which firms competed strongly with each other and could not absorb their competitors. Thus one reason that Japanese group firms are formidable competitors abroad is that they face formidable competitors at home and have had to be innovative to survive.

3.0 Leverage

Japanese firms appear to be more highly levered than their U.S. counterparts, and the bulk of their borrowing consists of bank loans. It is common in large Japanese companies for debt to exceed owner's equity by 400 or 500 percent. The common argument is that this pattern of extensive debt gives the Japanese firms a cost of capital advantage over firms in other countries where bankers would never accept such risk exposures. Table 5 compares Japanese equity ratios with those of other industrialized countries.

International comparisons of accounting data are, of course, imprecise and perhaps misleading because of differences in national accounting practices. Some authors have even suggested that the apparent disparity between Japanese and U.S. practice may be largely a reporting artifact (Kuroda and Oritami, 1980), and at the very least is greatly exaggerated (Choi, et. al., 1983).

One particular source of bias is the practice of carrying fixed assets (particularly real estate) at acquisition cost rather than at market or replacement value. This problem is common to both Japanese and U.S. firms. However, the distortions are particularly severe in the case of Japan because of the spectacular increase in the value of real estate holdings there. Assets were revalued once after the war, but any increase in market value since then is generally not reflected in the capital accounts.

The use of compensating balances to get around interest rate ceilings and other restrictions provides another source of bias. The effect is to cause gross bank debt to greatly exceed net debt. Absent accurate comparative numbers, we will assume, as appears reasonable, that even if all the necessary adjustments were made, a substantial disparity in leverage between Japanese and U.S. firms would persist.

Furthermore, firm debt is almost entirely in the form of bank loans. In 1979, domestic corporate bonds outstanding were only ¥3 trillion while bank borrowing of large-scale listed corporations was ¥96 trillion at the end of March, 1980 (Prindl, 1981, p. 25). One reason for this preponderance of bank over bond debt was that as government policy kept bond interest rates low, bonds could not be sold to the public at large in any volume. In fact, after the oil shock of 1974, the city banks were ordered to buy government bonds at par. The government essentially preempted the bond market for itself, state and local governments, and public corporations.

A second reason reportedly is that under Article 4 of the General Banking Agreement (1948), borrowing firms are required to sign a form which allows the bank to demand additional collateral almost without limitation (Choi, et. al., 1983, fn. 11). As a consequence of this article, bonds become subordinated debt relative to bank loans. This practice would intensify any restricting effect of de facto interest rate ceilings.

Firms, therefore, turned to banks for their debt requirements. The Bank of Japan assisted them by allowing the Japanese city banks to have high ratios of loans to deposits, which has come to be known as the "over-loan" phenomenon. In effect, firms borrowed from their banks, which in turn borrowed from provincial banks and from the Bank of Japan through the rediscount window. The latter has provided between one and twelve percent of the city banks'

total capital, and has averaged about seven percent for the 1968-75 period (Bronte, 1980, p. 143).

3.1 Reasons for High Leverage

In this section we will discuss some five factors, all of which would act to induce companies in Japan to accept higher debt/equity ratios than would U.S. companies. The five are: 1) below market interest rates on debt; 2) the internal capital market role of companies; 3) the high cost of equity issues; 4) bank-firm relations; and 5) government policies, both micro- and macroeconomic.

Clearly, if firms may issue debt on which they pay below market rates, they will have an incentive to increase the ratio of debt to equity. They will do so until, at the margin, the interest savings equal the additional costs shareholders face because of the increased risk. All other things being equal, to the degree that interest rates in Japan are now being freed of their ceilings, leverage will decrease. One can think of leverage induced risk as the price the firm must pay to acquire a government subsidy. As the value of the subsidy falls, the price firms will agree to pay must fall too.

We have already suggested that groups in Japan are a substitute for external capital markets. One can think of the large companies as part industrial firm and part bank. Netting out trade payables and receivables in order to remove the effect of the banking role causes the apparent leverage to decline (Bronte, 1982, p. 9).

The third factor leading to high debt to equity ratios is the reputedly high cost of equity capital in Japan. There are a number of practices in the issuing of equity which some observers argue make this a particularly costly way to raise funds in Japan.

Until the late 1960s to early 1970s, all stocks were issued at par value (generally 50 or 100 Yen per share) regardless of market price. Moreover, companies, particularly larger ones, were generally expected to pay a dividend of 10 or 15 percent of par value. Shares were first offered pro-rata to existing stockholders, with unsubscribed shares being offered to the public at market value. This mode of issuing shares increased the firm's absolute dividend commitment, and the dividend yield per share relative to market value. As the point of capital issues is to procure funds, the dividend commitment is somewhat self-defeating. In addition, if the firm wishes to raise a substantial amount of capital it will have to issue more shares at par than it issued at market value, assuming that the latter is greater than the former. If market value is below par, the firm obviously could not issue shares at par, if at all. Thus, at least according to the financial managers interviewed for a study by Wright and Suzuki (1978), the practice of issuing at par was a major constraint on firms wishing to adjust their capital structure.

The arguments for leverage being a consequence, in part, of the costs of issuing equity described above are not wholly convincing. We report them because they are so widely believed. Instead of regarding issuing at par as an expensive way of raising capital, one should perhaps think of it as a way of increasing dividend yield through a de facto stock split. Firms may wish to do this to provide a positive signal of management's view of the firm's prospects. It is the relative absence of issues at market then that is the symptom of either the lack of demand for equity capital (our first factor above), or of the existence of a high cost.

For every year between 1972 and 1980 (except 1975), public offerings at market have exceeded issues at par both in number of issues and the amount of funds raised. While many descriptions of Japanese stock markets suggest that

the practice of issuing at market began in the late sixties, Table 6 presents data indicating such issues were not negligible even earlier. The surge in popularity of this practice in 1972 caused some opposition, resulting in strict rules for floating new issues at market in 1973, which limited the companies eligible to do so to a minority of those listed on the Tokyo Stock Exchange (Bronte, 1982, p. 172).

As Table 6 shows, issuing shares at market has become the dominant mode of raising capital in the stock market, even though the rules limit the number of eligible firms and the amounts they may raise, and impose penalties on firms for doing so. While Wright and Suzuki (1978, p. 369) argue that the penalties are substantial, one can infer from Bronte (1982, p. 172) that the rules can be satisfied by what amounts to accounting changes, which at most increase the firm's dividend commitment. Interestingly, Table 7 shows that from 1976 on a much larger portion of the proceeds has gone to the repayment of debt than over the period 1970-1975. Apparently in recent years, large, mature companies have been reducing their leverage.

This suggests an alternative cost of equity explanation for leverage. Rather than leverage leading to growth, growth leads to leverage. Rapidly growing companies will prefer to issue debt instead of equity because of the problem of asymmetric information between managers and investors. Myers and Majluf (1982) present a model from which they argue that when managers have inside information about the value of the firm's existing investment and growth opportunities, but cannot convey that information without cost to investors, the value maximizing strategy is to issue debt rather than equity. The decision to issue equity cannot fully convey the managers' special information, and so if stock is issued, stock price falls as the firm has a incentive to issue equity when it believes it to be overpriced. By issuing

debt, the firm can undertake even those projects for which the loss of firm value due to a stock price fall if equity financed, exceeds the value of the project. The Myers and Majluf (1982) model suggests that firms should go to debt markets for external capital, and raise equity by retention, preferably issuing equity when growth opportunities are limited and thus managers have no information. Furthermore, firms should build up some financial slack by restricting dividends, for instance, even when investment demands are modest in order to avoid having to issue stock to finance investment. These prescriptions are in line with Japanese practice. Note, too, that the behavior is consistent with stockholder value maximization. It does not require recourse to explanations involving the alleged passivity of Japanese stockholders or managerial capitalism (i.e., the attempt by managers to avoid the discipline of capital markets and to cut the ties that bind their interests to those of stockholders).

Until the oil shock of 1973, the postwar Japanese economy underwent a period of rapid economic growth an average annual growth rate of 10 percent. This period has been followed by one in which commodity price shocks, changing demographics, domestic lifestyle changes, the growth of tertiary industry, and Japan's new status as an international superpower with great influence on the world economy have all come together to result in what Nakamura (1981) describes as the "end of rapid growth." As we have mentioned above, this has had a particular impact on many large firms in industries that are at best undergoing slow growth, and in some cases actual decline. Their response has been to change their financial structure to one of more moderate debt-to-equity ratios.

The fourth factor that may serve to explain the high leverage of Japanese firms is the bank-firm relationship. This has two aspects, the role of the "main" bank, and the role of the banks' equity ownership.

While a large industrial firm will have loans outstanding from several banks, generally one bank will be its main bank. For a group company this will be the group bank. The relationship between the firm and this bank will be quite close, with the bank having tacit veto power over the firm's financial decisions. If the firm gets into difficulties, the bank may actually send in a team of executives directly to manage it. (This practice is similar to the U.S. bank practice of appointing a loan workout specialist who exercises much of the same power.) The intervention of the bank team can cause the hapless firm's managers great personal embarrassment, and the possibility of intervention occurring induces some caution. In neither the U.S. nor Japan is it entirely clear what the legal foundation for the intervention is, though in the latter case the law gives sweeping powers to the holders of the collateral of secured loans and bonds.

Because of its responsibility, powers, and rights, the main bank is implicitly expected to subordinate its loans to those of the firm's other banks, and as it is frequently a stockholder, to the claims of the other stockholders. Its loans, though formally on the same footing as those of all other unsecured lenders, are de facto more like preferred stock. If one were to reclassify them as such, the firms' apparent leverage again will fall. On occasion main banks have permitted firms to continue paying dividends while deferring their loan interest and principal payments. Presumably, a bank which gained a reputation for failing its responsibilities as a main bank would find firms unwilling to accord it the power and the profit of the relationship.

A final point worth mentioning while under the rubric of bank-firm relationships is the consequences of banks' legal right to own shares. As they can and do own shares in firms, Japanese banks can avoid imposing and monitoring many of the loan restrictions that other banks must impose where this is not permitted.

One can think of the equity as a call option on the levered firm. As such, anything managers do which makes the firm more risky than anticipated by creditors transfers wealth from them to stockholders. Creditors therefore must protect themselves by restricting managers from taking on such risky strategies, or by requiring that any further debt be subordinate to their own. In Japan (as in many other countries such as Germany and Switzerland), banks may be both a creditor and a stockholder and make themselves indifferent to such maneuvers. Non-main banks, which particularly in the case of group firms are less likely than the main bank to own the firm's equity, may require that the main bank treat its loans as subordinate to theirs as a condition for lending.

The last factor affecting leverage we wish to discuss is government policy, both micro and macroeconomic. By microeconomic policy we mean the Japanese government's implicit guarantees of bank and firm debt. By macroeconomic policy we mean the government's borrowing to fund its budget deficits.

While banks in Japan must carry depositor insurance, the premium they pay is trivial. The government will not allow a major bank to fail. Similarly, the government apparently will intervene to save major industrial firms, in part because they assume large social functions in lifetime employment, and in part because their capabilities make them national assets (Wallich and Wallich, 1976). For both banks and firms, therefore, one can

think of the government as an implicit shareholder. Given assumptions and resources, one could impute a capital value to these guarantees and again adjust the apparent leverage accordingly.

Finally, in recent years the Japanese government has been running very large budget deficits and funding these through massive bond issues. In doing so it may be crowding out firm debt in the sense of driving up real interest rates. If so, it changes the relative cost of debt and equity, inducing firms to substitute the latter for the former. This argument provides an additional explanation for the recent apparent tendency for many large Japanese firms to issue equity and retire debt which we noted earlier. The theoretical basis for crowding out arguments (in general) is not strong, however, and in the Japanese case may be less relevant as firm investment may have started to decline for other reasons.

To summarize, we have suggested several factors which encourage the apparent high leverage of Japanese firms. Below market interest rates on debt induce firms to substitute debt for equity to acquire the subsidy, and to act as bankers to firms with less favorable access. Furthermore, high growth and asymmetric information make raising investment funds through equity markets particularly expensive. Finally, each firm's capital accounts are understated because of accounting conventions which not only do not reflect market values of assets, but more importantly do not correctly reflect the economic reality of the loans of main banks, or incorporate the implicit capital provided by government guarantees.

3.3 Implications for International Competitiveness

A widely accepted belief in U.S. industrial circles holds that high leverage gives Japanese firms a competitive advantage. The argument is that

because they can combine a large amount of low cost debt with a small amount of equity on which they pay negligible dividends, Japanese firms simply do not have to pay much for their capital. This is a flawed assessment for a number of reasons, and also confuses cause and effect.

First, one must note that one successful Japanese exporter, Toyota Motor Company, has no long term debt. It follows this policy because apparently its owner does not, for personal historical reasons, like banks. Following presumably sub-optimal financial policies has not prevented Toyota from succeeding at home or abroad. The materiality of financial factors is therefore arguable.

Second, the seminal work of Modigliani and Miller (1958) showed that it is the risk of a firm's investments that determines its cost of capital, not borrowing costs. If firms undertake risky investments and borrow extensively to finance them, stockholders will demand high expected returns. Even supposedly apathetic Japanese investors cannot be forced to buy shares. They will pay a price such that their expected return will compensate them for the risk they are bearing, net of any diversion by managers of resources into their own pockets. Furthermore, it is not correct to look only at dividends in computing the cost of equity. Stockholders receive their returns in the form of dividends and capital gains on share appreciation. In Japan stockholders have a particular preference for capital gains which are not taxed, whereas dividends are.

Third, high leverage merely indicates that debt is relatively less expensive than equity. Even if the optimal combination of the two is different for Japanese firms and requires a greater proportion of debt than that for U.S. firms, one cannot infer that the absolute weighted average cost of capital is greater in the latter. When domestic capital markets are as

segmented from the world as the Japanese markets have been until recently, one cannot assume the equality of real interest rates or the market price of risk. If Japanese investors are as risk averse as they are often described as being, then it is quite possible that even if the real cost of debt is lower than in the U.S., the weighted average cost of capital could still be higher. It is worth noting that for the period 1960 to 1980, the compound average annual return on equity (measured in dollars), was 15.6 percent for Japan and 8.7 percent for the U.S., while that for bonds was 10.6 percent and 4.2 percent respectively (Ibbotson, Carr, and Robinson, 1982).

The final point we wish to make has to do with confusing cause and effect. It is well possible that Japanese firms' apparent high leverage is a consequence of government subsidies through reduced borrowing costs and implicit guarantees. If so, then the firms' advantage is in the subsidies, with leverage the signal of their presence. As the Japanese government is in the process of freeing interest rates, it is possible that the degree of subsidy will be much reduced in the future.

4.0 Conclusion

We have examined two characteristics of "Japanese finance"--bank-business groups and high financial leverage--in the light of standard economic theory. Both practices appear understandable, even without recourse to sociological or anthropological explanations. Groups appear to be internal capital markets and a response to the Japanese government's policies which have prevented the external capital markets from allocating funds to their highest valued uses. Leverage appears to be the consequence of firm growth, accounting conventions, and a response to government subsidies delivered through financial channels.

Suzuki (1980) in his study of the Japanese system, while not discussing groups, comes to similar conclusions. He finds that over-loan, high leverage, the predominance of bank over direct financing for corporations, and the dependence of city banks for funds on the provincial banks are all consequences of Bank of Japan interest rate and credit allocation policies.

If groupism and leverage have contributed to the international competitiveness of Japanese firms, it is indirectly. Groups, by mitigating bureaucratic credit allocation errors have permitted their firms to continue to compete, and may unintentionally have kept the Japanese industrial scene more competitive than it might otherwise have been. Leverage is at most a symptom of subsidies whose effect is hard to judge. Governments often exact a quid pro quo which we have not attempted to identify or evaluate for its effect on costs. Moreover, it is quite possible that any subsidy merely counteracted a higher cost of equity capital in Japan's segmented capital market.

In terms of teaching finance, both issues can be instructive. Discussing groups and their role points out the role of capital markets and the limitations on a government's ability to allocate resources. Assessing the effect and causes of leverage enables students to apply their theoretical training in an unfamiliar setting, thus gaining an appreciation of its broader utility. Again, our primary intent is to use Japan to teach finance, and secondarily, to use finance to teach about Japan.

Bibliography

- Alhadeff, David A. 1975. "Bank-Business Conglomerates--The Japanese Experience." Banca Nazionale Del Lavoro Quarterly Review 114, pp. 232-267.
- Bavishi, Vinod. 1982. "The Financial Ratios of the World's 1000 Leading Industrial Companies," Center for Transactional Accounting and Financial Research, University of Connecticut.
- Bittlingmayer, George. 1982. "Decreasing Average Cost and Competition: A New Look at the Addyston Pipe Case," Journal of Law and Economics 25, 2, pp. 201-229.
- Bronte, Stephen. 1982. Japanese Finance: Markets and Institutions. (London: Euromoney Publications Ltd.).
- Choi, F. D. S., Min, S. K., Nam, S. O., Hino, H., Ujiie, J., and Stonehill, A. Spr./Sum. 1983. "Analyzing Foreign Financial Statements: Use and Misuse of Ratio Analysis," Journal of International Business Studies 14, 1, pp. 113-131.
- Dufey, Gunter. 1983. "Banking in the Asia-Pacific Region" in, Richard Moxon, ed., Research in International Business and Finance (Greenwich, Conn.: JAI Press).
- Ibbotson, Roger C., Carr, Richard C., and Robinson, Anthony W. Jul.-Aug. 1982. "International Equity and Bond Returns," Financial Analysts Journal pp. 61-83.
- JEI Report. October 9, 1981. "Corporate Financing in Japan," Report no. 38.
- Kuroda, Iwao, and Oritami, Yoshiharu, 1980, "A Reexamination of the Unique Features of Japan's Corporate Financial Structure," Japanese Economic Studies 8, 4 (Summer), pp. 82-117.
- Leff, Nathaniel H. 1976. "Capital Markets in the Less Developed Countries: The Group Principle," in Ronald I. McKinnon, ed., Money and Finance in Economic Growth and Development (New York: Marcel Dekker, Inc.).
- Modigliani, F., and Miller, M. H. 1958. "The Cost of Capital, Corporation Finance, and the Theory of Investment," American Economic Review 48, pp. 261-297.
- Myers, Stewart C., and Majluf, Nicholas S. 1982. "Stock Issues and Investment Policy When Firms Have Information That Investors Do Not Have." National Bureau of Economic Research, Working Paper 884, Cambridge Massachusetts.
- Nakamura, Takafusa. 1981. The Postwar Japanese Economy (Tokyo: University of Tokyo Press).

- Okumura, Hiroshi. 1982. "Interfirm Relations in an Enterprise Group: The Case of Mitsubishi," Japanese Economic Studies, pp. 53-82.
- Oriental Economist. 1982. "Six Industrial Groups in Japanese Economy," 50, 866, (Dec.) pp. 26-28.
- Prindl, Andreas R. 1981. Japanese Finance (New York: John Wiley & Sons).
- Sakakibara, Eisuke, and Feldman, Robert A. 1983. "The Japanese Financial System in Comparative Perspective," Journal of Comparative Economics 7, pp. 1-24.
- Securities Market in Japan. 1982, Japan Securities Research Institute.
- Servan-Schreiber, Jean-Jacques. 1968. The American Challenge.
- Suzuki, Yoshio. 1980. Money and Banking in Contemporary Japan (New Haven: Yale University Press).
- Teece, David J. 1982. "Towards an Economic Theory of the Multiproduct Firm." Journal of Economic Behavior and Organizations 3, pp. 39-63.
- The Japanese Financial System. 1978. The Bank of Japan, Economic Research Development.
- Wallich, Henry C., and Wallich, Mabel I. 1976. "Banking and Finance," in Hugh Patrick and Henry Roskovsky, eds. Asia's New Giant, (Washington, D.C.: The Brookings Institution).
- Wright, Richard W., and Suzuki, Sadahiko. 1979. "Capital Structure and Financial Risk in Japanese Companies," Proceedings of the Academy of International Business Conference: Asia Pacific Dimensions of International Business, pp. 367-375.

Table 1

Share of Six Industrial Groups in the Japanese Economy (a)
(Excluding Financial and Insurance Firms; %)

| | <u>Employees</u> | <u>Total Assets</u> | <u>Sales</u> | <u>Net Profits</u> | <u>Number of Firms (b)</u> |
|------|------------------|---------------------|--------------|--------------------|----------------------------|
| 1970 | 5.87 | 17.52 | 14.95 | 13.24 | 130 |
| 1981 | 4.74 | 15.10 | 15.74 | 12.75 | 157 |

Note: (a) The six leading industrial groups are: Mitsui, Mitsubishi, Sumitomo, Fuyo (Fuji Bank), Sanwa, and Dai-Ichi Kangyo.

(b) Number of firms belonging to the presidents' conferences of the six groups.

Source: Oriental Economist, 1982, p. 26, Table 1.

Table 2

 Presidents' Conference Member Firms of Six Major Industrial Groups
 (As of September, 1982)

| | Mitsui (Nimokukai, 24 Firms) | Mitsubishi (Kinyokai, 28 Firms) | Sumitomo (Hakusukai, 21 Firms) | Fuyo (Fuyokai, 29 Firms) | Sanwa (Sansuikai, 41 Firms) | Dai Ichi Kangyo (Sankinkai, 45 Firms) |
|-------------------------------------|---|--|---|---|---|---|
| Banking, Insurance | Mitsui Bank Mitsui Trust & Banking Mitsui Mutual Life Ins.* Taisho Marine & Fire Ins. | Mitsubishi Bank Mitsubishi Trust & Banking Meiji Mutual Life Ins.* Tokio Marine & Fire Ins. (Nippon Trust & Banking) | Sumitomo Bank Sumitomo Trust & Banking Sumitomo Mutual Life Ins.* Sumitomo Marine & Fire Ins. | Fuji Bank Yasuda Trust & Banking Yasuda Mutual Life Ins.* Yasuda Fire & Marine Ins. | Sanwa Bank Toyo Trust & Banking Nippon Life Ins.* (Daido Mutual Life Ins.*) | Dai Ichi Kangyo Bank Asahi Mutual Life Ins.* Fukoku Mutual Life Ins.* Nissan Fire & Marine Ins. Taipei Fire & Marine Ins.* |
| Trading | Mitsui & Co. | Mitsubishi Corp. | Sumitomo Corp. | Marubeni Corp. | Nichimen Corp. Nissho Iwai Corp. Iwatani & Co. | C. Itoh & Co. Kanematsu Goshu Nissho Iwai Corp. Kawasho Corp. |
| Agriculture, Forestry, Mining | Mitsui Mining Hokkaido Colliery & Steamship* | | Sumitomo Forestry Sumitomo Coal Mining. | | | |
| Construction | Mitsui Construction Sanki Engineering | Mitsubishi Construction* | Sumitomo Construction | Taisei Corp. | Obayashi-Gumi Toyo Construction Sekisui House | Shimizu Construction |
| Foodstuffs | Nippon Flour Mills | Kirin Brewery | | Nisshin Flour Milling Sapporo Breweries Nippon Reizo | Ito Ham Provisions | |
| Textiles | Toray Industries | Mitsubishi Rayon | | Nisshin Spinning Toho Rayon | Unitika Teijin | Asahi Chemical Industry |
| Paper-Pulp | Oji Paper | Mitsubishi Paper Mills | | Sanyo-Kokusaku Pulp | | Honshu Paper |
| Chemicals | Mitsui Toatsu Chemicals Mitsui Petro- chemicals | Mitsubishi Chemical Mitsubishi Gas Chemical Mitsubishi Petrochemical Mitsubishi Plastics Mitsubishi Monsanto* | Sumitomo Chemical Sumitomo Bakelite | Showa Denko Kureha Chemical Nippon Oil & Fats | Tokuyama Soda Sekisui Chemical Ube Industries Hitachi Chemical Tanabe Seiyaku Fujisawa Pharmaceutical Kansai Paint | Denki Karaku Nippon Zeon Asahi Denka Sankyo Shueido Lion Corp. |
| Petroleum | | Mitsubishi Oil | | Toa Nentyo | Maruzen Oil | Showa Oil |
| Rubber | | | | | Toyo Rubber | Yokohama Rubber |
| Glass-Stone | Onoda Cement | Asahi Glass Mitsubishi Mining & Cement | Nippon Sheet Glass Sumitomo Cement | Nihon Cement | Osaka Cement | Chichibu Cement |
| Iron & Steel | Japan Steel Works | Mitsubishi Steel Mfg. | Sumitomo Metal Ind. | Nippon Kokan | Kobe Steel Nisshin Steel Nakayama Steel Works Hitachi Metals | Kawasaki Steel Kobe Steel Japan Metals & Chemicals |
| Non-ferrous Metals | Mitsui Mining & Smelting | Mitsubishi Metal Mitsubishi Aluminum* | Sumitomo Metal Mining Sumitomo Aluminium* Sumitomo Light Metal Sumitomo Electric | | Hitachi Cable | Nippon Light Metal Furukawa Co. Furukawa Electric |
| Machinery | | Mitsubishi Kakoki | Sumitomo Heavy Industries | Kubota Nippon Seiko | NTN Toyo Bearing | Niyata Engineering Iseki & Co. Ibara Corp. |
| Electric Appliances | Toshiba | Mitsubishi Electric | Nippon Electric | Hitachi Oki Electric Yokogawa Elec. Works | Hitachi Iwatsu Electric Sharp Corp. Kyocera Nitto Electric | Hitachi Lumi Electric Yasakawa Electric Lumitru Nippon Columbia |
| Transport Equipment | Mitsui Engineering & Shipb'g Toyota Motor | Mitsubishi Heavy Ind. Mitsubishi Motors* | | Nissan Motor | Hitachi Zosen Shin Meiwa Ind. Daihatsu Motor | Kawasaki Heavy Ishikawajima- Harima Heavy Industries Motors |
| Precision Equipment | | Nippon Kogaku | | Canon | | Asahi Optical |
| Department Stores | Mitsukoshi | | | | Takashimaya | Seibu Depart- ment Store* |
| Finance | | | | | Orient Leasing | Nippon Kangyo- kakumaru |
| Real Estate | Mitsui Real Estate Development | Mitsubishi Real Estate | Sumitomo Realty & Development | Tokyo Tatemono | | |
| Transportation, Warehousing | Mitsui O.S.K. Lines Mitsui Warehouse | Nippon Yusen Mitsubishi Warehouse & Transportation | Sumitomo Warehouse | Tobu Railway Keihin Electric Express Railway Showa Line | Hankyu Nippon Express Yamashita- Shunshin Steamship | Nippon Express Kawasaki Kisen Shibusawa Warehouse |
| Services | | | | | | Korakuen Stadium |
| Notes: | 1) *Companies not listed on stock exchanges; 2) Nippon Trust & Banking and Daido Mutual Life Insurance are non-member firms of their respective presidents' conferences but are listed in the parentheses because of their importance; 3) Hokkaido Colliery & Steamship of the Mitsui group is now temporarily a non-participant. | | | | | |

Table 3

Percentages of Stockholding by Enterprise Groups (a)
(as of March 1977)

| Owner | Owned | | | | | |
|-----------------------|--------------|------------------|----------------|------------|-----------------------|-------------|
| | Mitsui Group | Mitsubishi Group | Sumitomo Group | Fuyo Group | Dai-Ichi Kangyo Group | Sanwa Group |
| Mitsui Group | 18.42 | 0.79 | 1.16 | 1.60 | 2.35 | 2.98 |
| Mitsubishi Group | 1.02 | 25.01 | 0.44 | 2.30 | 2.59 | 2.07 |
| Sumitomo Group | 1.06 | 0.17 | 28.24 | 1.24 | 0.98 | 1.03 |
| Fuyo Group | 0.96 | 1.02 | 1.00 | 16.59 | 2.92 | 8.36 |
| Dai-Ichi Kangyo Group | 1.47 | 1.96 | 0.68 | 2.27 | 13.73 | 10.21 |
| Sanwa Group | 0.72 | 0.63 | 1.68 | 1.39 | 2.10 | 17.35 |

Note: a) Percentages are simple averages of the stockholding percentages of each owner group's individual member firms in each owned group.

Source: Okumura, 1982.

Table 4

Trade Credit as Percentage of Total Assets
of the Non-Financial Sector

| | <u>Japan</u> | <u>U.S.</u> |
|---------|--------------|-------------|
| 1953-55 | 26.3 | 6.5 |
| 1956-60 | 26.0 | 6.8 |
| 1961-65 | 30.3 | 6.7 |
| 1966-70 | 31.8 | 7.8 |
| 1971-75 | 29.3 | 8.7 |
| 1976-78 | 26.1 | 8.4 |

Source: Sakakibara and Feldman (1983): Table 6, p. 9.

Table 5
Equity Ratios by Country

| | 1974 (a) | | 1980 (b) | |
|----------------|-------------------------|------------------|-------------------------|------------------|
| | <u>No. of Companies</u> | <u>Ratio (%)</u> | <u>No. of Companies</u> | <u>Ratio (%)</u> |
| Japan | 103 | 21 | 72 | 28 |
| United States | 183 | 51 | 408 | 55 |
| Canada | 13 | 47 | 33 | 54 |
| United Kingdom | 33 | 45 | 101 | 50 |
| West Germany | 27 | 28 | 59 | 53 |
| France | 10 | 34 | 43 | 34 |
| Italy | 15 | 16 | 5 | 43 |
| Netherlands | 3 | 39 | 21 | 47 |
| Belgium | 6 | 38 | 11 | 39 |
| Switzerland | 4 | 59 | 15 | 46 |
| Sweden | 7 | 28 | 28 | 48 |

Sources: a) Wright and Suzuki (1979); Table 1.

b) Bavishi (1980).

Table 6

New Issues By Type, 1960-1980
(Amounts in Billion Yen)

| <u>Year</u> | Public Offering at Market | | Issues at Par | |
|-------------|------------------------------|--------------------------|-----------------------------|--------------------------|
| | <u>Number of Issues</u> | <u>Amount Raised</u> | <u>Number of Issues</u> | <u>Amount Raised</u> |
| 1960 | 89 | 34 | 227 | 320 |
| 1961 | 191 | 77 | 381 | 613 |
| 1962 | 150 | 19 | 454 | 562 |
| 1963 | 123 | 35 | 389 | 384 |
| 1964 | 72 | 3 | 351 | 497 |
| 1965 | 19 | 0 | 82 | 112 |
| 1966 | 30 | 1 | 145 | 193 |
| 1967 | 48 | 4 | 149 | 179 |
| 1968 | 69 | 9 | 165 | 295 |
| 1969 | 120 | 54 | 238 | 432 |
| 1970 | 171 | 133 | 267 | 519 |
| 1971 | 121 | 77 | 184 | 388 |
| 1972 | 239 | 638 | 144 | 271 |
| 1973 | 206 | 520 | 137 | 325 |
| 1974 | 167 | 262 | 166 | 225 |
| 1975 | 87 | 212 | 130 | 752 |
| 1976 | 160 | 485 | 85 | 167 |
| 1977 | 196 | 566 | 94 | 281 |
| 1978 | 162 | 530 | 46 | 258 |
| 1979 | 189 | 580 | 42 | 256 |
| 1980 | 177 | 842 | 52 | 84 |

Source: Bronte, 1982; Exhibit 15.4, p. 172.

Table 7

Percentage of New Share Issues Going to Repayment

| Fiscal Year | Percentage |
|-------------|------------|
| 1970 | 3.8 |
| 1971 | 4.5 |
| 1972 | 3.5 |
| 1973 | 4.6 |
| 1974 | 3.4 |
| 1975 | 3.5 |
| 1976 | 9.8 |
| 1977 | 12.6 |
| 1978 | 11.1 |
| 1979 | 10.4 |
| 1980 | 12.1 |

Source: Securities Market in Japan, 1982, Japan Securities Research Institute.