

First draft, September 29th 2002
This draft, July 14th 2004
Preliminary: Comments welcome.

A Frog in a Well Knows Nothing of the Ocean

A History of Corporate Ownership in Japan

Randall Morck^a and Masao Nakamura^b

-
- a. Stephen A. Jarislowsky Distinguished Professor of Finance, School of Business, University of Alberta, Edmonton, Alberta, Canada, T6G 2R6. Tel: (780) 492-5683. Fax: (780) 492-3325. E-mail randall.morck@ualberta.ca; Research Associate, National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138 USA.
 - b. Konwakai Japan Research Chair and Professor, Sauder School of Business, The University of British Columbia, 2053 Main Mall, Vancouver, B.C., Canada V6T 1Z2, Tel: (604) 822-8434, Fax: (604) 822-8477, E-mail: masao.nakamura@sauder.ubc.ca, (Nakamura is also with UBC's Institute of Asian Research and the Faculty of Applied Science.)

We are grateful for comments by Sheldon Garon, Akiyoshi Horiuchi, Yishay Yafeh, and two anonymous reviewers on an earlier version of this paper, entitled 'Been There, Done That – The History of Corporate Ownership in Japan'. We are also indebted for useful suggestions to Barry Eichengreen, Masaharu Hanazaki, Katsuyuki Kubo, Richard Sylla, Seki Obata, Dwight Perkins, Juro Teranishi, Yupana Wiwattanakantang, and participants in the NBER History of Corporate Ownership: The Rise and Fall of Great Business Families conference at Lake Louise in 2003, the ECGN-NBER-University of Alberta-INSEAD conference of the same name at Fontainebleau in 2004, the Strategy and Business Economics seminar at the University of British Columbia, and, the Hitotsubashi University Workshop on Corporate Governance in East Asia. This research was done while Randall Morck was visiting Hitotsubashi University in Tokyo.

Abstract

Japan's corporate sector has, over the past century, been reorganized according to every major corporate governance model. Prior to World War II, wealthy Japanese families locked in their control over large corporations by organizing them into pyramidal groups, called *zaibatsu*, similar to structures currently found in Canada, France, Korea, Italy, and Sweden. In the 1930s, the military government imposed a centrally planned command economy, with private property rights retained as little more than a legal fiction. The American occupation force replaced this with a widely held corporate sector similar to that of the United Kingdom and United States. A bout of takeovers and greenmail ensued. To defend their positions, Japanese top executives placed small numerous blocks of stock with each other's firms, creating dense networks of small intercorporate blocks that summed to majority blocks in each firm. These networks, called *keiretsu*, halted hostile takeovers completely. Although their primary functions were to lock in corporate control rights, both *zaibatsu* and *keiretsu* were probably also rational responses to a variety of institutional failings. Successful *zaibatsu* and *keiretsu* were enthusiastic political rent-seekers, raising the possibility that large corporate groups are better at influencing government than free standing firms. In the case of *keiretsu* especially, this rent seeking probably retarded financial development and created long-term economic problems.

1. Introduction

An ancient Japanese proverb speaks of a frog prideful of the beauty at the bottom of his well and ignorant of the world beyond. The history of Japanese corporate ownership is especially interesting because the Japanese literally searched the world for the best institutions of capitalism, and changed their institutions more radically and more often than in any other major industrial economy. These changes, and the associated successes and failures associated, illuminate fundamental issues of corporate governance, corporate ownership and the economics of institutions.

Historical and contemporary research into corporate ownership in Japan both focus on intercorporate networks. In the last third of the twentieth century, the inter-firm networks of interest were horizontal and vertical *keiretsu* groups. Horizontal *keiretsu*, like the Mitsui group, are inter-industry networks of firms whose small individual equity stakes in each other collectively sum to control blocks. Vertical *keiretsu* encompass the suppliers and customers of a single large firm, such as Toyota Motors. In both variants, public shareholders only have access to minority interests, rendering them essentially irrelevant to corporate governance. Adjunct to the *keiretsu* networks, most Japanese firms have strong ties to their lead lenders, or *main banks*.

However, *keiretsu* are a relatively recent development. During the feudal Takagawa period (1603-1868), Japanese firms were owned entirely by families - or, perhaps more properly, by clans. The Mitsui and Sumitomo family businesses both emerged during this era. In both cases, extensive sets of family rules and traditions determined corporate governance issues.

Following the Meiji Restoration of 1868, the new government promoted rapid industrialization. The Mitsuis, Sumitomos, and other new family businesses like Mitsubishi (run by the Iwasakis) needed capital vastly in excess of their own wealth, and turned to public equity markets. The families organized a new firm to float equity for each new venture, and organized them into pyramidal groups. At the apex of each was a family partnership (later a family corporation), which control several public corporations, each of which controlled other public corporations, each of which controlled yet other public companies, and so on. These structures, called *zaibatsu*, resembled modern Korean *chaebol* and similar pyramidal groups elsewhere.¹ Despite much research, the contributions of *zaibatsu* to the rapid development of the prewar period remain unclear. The *zaibatsu* were clearly key players in this development. But questions remain about whether powerful *zaibatsu* families grew overly concerned about preserving their wealth and control, and avoided high-risk projects in new industries that might have further accelerated Japan's modernization. Also, *zaibatsu* controlling banks that lent solely to firms in that *zaibatsu* failed during the interwar depressions, exposing problems inherent in related lending.

During World War II, Japan *de facto* nationalized all its major corporations, subordinating them to central planners.² The Temporary Funds Adjustments Law of 1937 created the *Kikakuin*, or Planning Agency, to centralize economic planning and administration. This required corporate boards to obtain government approval for most important decisions, such as changing their articles of incorporation and issuing equity or debt. Further government decrees abolished boards' rights to set dividends in 1939 and to appoint managers in 1943, reassigning these powers to *Kikakuin*. The *Kikakuin* consciously imitated many of the planning methods the Soviet Union used for its heavy industrialization in the 1930s.³ This was accomplished amid much condemnation of "shareholders" (meaning the *zaibatsu* families) for their self-interest, risk aversion, and unpatriotic myopia. This rhetoric would resurface later as a justification for depriving small shareholders, rather than controlling shareholders, of governance input. The great *zaibatsu* families, of course, protested these charges.

¹ The Kanji characters for *zaibatsu* are pronounced *chaebol* in Korean. One is a stricter adherence to blood kinship in the governance of *chaebol*. Confucianism, influential Korean cultures, extols respect for family, while Japanese Buddhism allows more leeway for sidelining inept blood kin.

² Central planning in Japan involved rigid central plans, state command and control over all aspects of the economy, and the *de facto* abolition of ownership rights for capital. However, *de jure* private ownership of land was retained, as in communist Poland, as was *de jure* private ownership of *zaibatsu* and many other private-sector corporations. Japanese central planning was corporatist, rather than socialist, though much rhetoric of the period obscures this.

³ See Okazaki (1994) for details.

Following the war, Japan was governed by the United States military from 1945 to 1952. General MacArthur broke up the *zaibatsu*. Consequently, Japan was briefly a widely held economy, like the United States and United Kingdom, in which most large public companies had no controlling shareholder. Japanese firms undertook hostile takeovers of each other, and raiders extracted greenmail from unwilling target firms.

Following the end of the US Occupation in 1952, Japanese firms began preempting takeovers by acquiring white squire positions in each other.⁴ The major banks were often key in organizing these intercorporate equity placements. These holdings grew into the current *keiretsu* system in the 1950s and developed more fully in the 1960s. That system, which still characterizes Japanese big business, is now under growing stress. At the beginning of the current century, Japan is once again bracing for major institutional changes.

Throughout all of these changes, the principals of Japan's great businesses actively pursued their own interests, mainly profit and control. In general, they shaped and reshaped organizational forms to accommodate these objectives as new legal and other constraints emerged. This paper examines the emergence and evolution of these different organizational structures as responses to changing political and institutional circumstances.

Of course, institutional changes also reflected lobbying by big business. However, critical points in Japan's business history seem to involve exogenous events that clearly required adaptation by the business sector. The abrupt opening of Japan to world trade and the decision of the Meiji government to embark on a crash program of modernization was one such occasion. The generally negative attitudes of both the Japanese military government and the Allied Occupation Force in the mid 20th century were two others.

Many factors underlie the rise of *zaibatsu* and the organization of *keiretsu* –economies of scope and scale, reputation, circumventing flawed markets and institutions, and numerous other factors. However, we argue that the primary purpose of both *zaibatsu* and *keiretsu* was to protect the control rights, first of the great *zaibatsu* families, and later of professional managers. The *zaibatsu* families and *keiretsu* managers, especially main bank managers, also apparently benefited from political ties at certain times. This allowed both to become entrenched, and sometimes to retain governance powers they might better have relinquished.

This paper is organized as follows: Section 2 describes the initial state of ownership of Japan's largest businesses immediately prior to the country's industrialization. Section 3 describes the formation and development of Japan's great *zaibatsu* in the late 19th and early 20th centuries. Section 4 details the culling of Japan's corporate sector that took place in the 1920s and 1930s, as the country endured a spate of depressions. Section 5 describes the imposition of a centrally planned economy by the military in the late 1930s and 1940s. Section 6 describes the US Occupation and the reconstruction of Japan as a widely held economy with Anglo-American corporate governance. Section 7 describes the modification of this system into the present *keiretsu* ownership structures. Section 8 reflects on the economics underlying the *zaibatsu* and *keiretsu*, and attempts to distill lessons from Japan's corporate history. Section 9 concludes.

2. Initial Conditions: The Tokugawa Economy

Acemoglu *et al.* (2001), Glaeser and Shleifer (2002), and other students of institutional economics stress the importance of very early historical events. We therefore begin with an overview of the economy of preindustrial Japan.

Japan's first contact with the Western World was a 1542 Portuguese trading expedition. At the time, Japan was divided into warring principalities. By 1590, General Hideyoshi Toyotomi had united the country by force. To pacify it, he demanded absolute submission from every part of society. Foreign

⁴ A *white squire* is a friendly firm that buys a block of stock in a target firm to protect it from a raider. If the friendly firm takes the target over entirely, it is called a *white knight*.

merchants and missionaries interfered with this submission, so Hideyoshi persecuted and expelled foreigners.⁵

Hideyoshi died in 1598 after a failed invasion of Korea, and his comrade, General Ieyasu Tokugawa, quickly took charge. By 1603, Ieyasu had defeated rival warlords, many backed by foreigners, and was appointed Shogun by the Emperor in Kyoto. He established a government in Edo (renamed Tokyo in 1868 when the Emperor moved there from Kyoto), and his line would govern Japan as Shoguns for over 250 years. Tokugawa froze an already rigid caste system⁶, with *samurai* warriors at the top, peasants in a second tier, craftsmen below them, and merchants in the bottom stratum.⁷ Unsurprisingly, this moral inversion resulted in a prolonged economic stagnation, exacerbated by a code of chivalry, called *bushido*, that glorified honor above all else, entrusted all *samurai* with the power of life and death over the lower castes, forbade the higher castes from transacting business, and disparaged the pursuit of wealth as dishonorable. This era, the *Tokugawa Period* or *Edo Period*, revered *bushido* and mistrusted Western ideas.

Ieyasu promoted foreign trade and suppressed Christianity, but the third Tokugawa shogun, his grandson Iemitsu, concluded that trade and ideas were inseparable. Consequently, in 1633 he forbade traveling abroad, banned foreign books, and proclaimed a death sentence on foreigners found outside a small enclave in Nagasaki. Although some foreign books seeped in again after 1720, this early anti-globalization backlash continued to hermetically isolate Japan.

Though foreign trade was prohibited, domestic trade flourished and many merchant families grew wealthy. The Mitsui dynasty was founded by Hachirobei Takatoshi Mitsui (1622-1694), a silk merchant who expanded into other commodities because of his extensive use of barter. The Sumitomo, who grew wealthy mining and smelting copper, apparently started in Kyoto and then moved to Osaka in the early Edo period. Both families established complicated House Rules - constitutions governing all aspects of business. Power was divided between a Patriarch and a Family Council, which served a quasi-parliamentary function.

For example, the Mitsui family consisted of eleven founding clans, and devised elaborate rules for maintaining a balance of power among them. Representatives from each clan participated in management. The Mitsui House Rules prohibited the founding clans from withdrawing their ownership shares and prohibited other branches of the family from gaining ownership rights. Voting power in the Family Council passed to the eldest sons of each founding clan. Younger sons could serve as managers or could be given start-up funding. The Mitsui family was known for adopting competent hired managers through marriage to Mitsui daughters.⁸ Additional House Rules governed the disposition of property, marriage, divorce, adoption, and inheritance; and were strictly enforced at Family Councils to avoid intra-family feuds. House Rules forbade any Mitsui from bringing any family dispute to the public courts, becoming involved in politics publicly, creating debts, and guaranteeing debts. Involvement or

⁵ Japanese *shogun* and warlords are often cited by their first names.

⁶ The basis for this system dates to Hideyoshi Toyotomi (1536-1598), a shogun who was born as a peasant, became an adopted samurai soldier, and conquered Japan after confiscating the weapons of peasants and religious institutions in 1588. Worrying that social mobility might produce another Hideyoshi, he made castes permanent and hereditary in 1590. None but samurai could carry weapons or wear armor. Despite this, some fluidity reappeared – for example, some feudal lords in the Edo era sponsored sumo wrestlers to become samurai and carry two swords. Because of this, contemporary historians typically use the more ambiguous term *status group*, rather than *caste*.

⁷ Only *eta*, outcasts with unclean professions were lower.

⁸ Adoptions, like marriages, had to be approved by the Mitsui Family Council. An important example of this is Rizaemon Minomura (1821-1877). Born to an unemployed samurai in Nagano, he migrated to Edo. While working for a merchant, he negotiated with Mitsui. Mitsui hired him in 1866 and ultimately adopted him into the family as head of the Minomura clan, one of the eleven at Mitsui Family Council. (He adopted the Minomura name.) He subsequently held various key positions with Mitsui companies. In 1876 he reorganized the family money exchange operation into the Mitsui Bank and became its president. Rizaemon Minomura later adopted a merchant's son, Risuke Minomura (1843-1901).

investment in any non-family business, and serving in public office were proscribed unless the Mitsui Council made an exception.⁹

Mitsui assets were divided into three classes. *Business assets* belonged to the entire Mitsui family, and the House Rules permitted no division of them among the clans. *Common assets* were used for disasters and emergencies, and so served as a sort of insurance fund. Each clan managed its common assets as it chose, and the principal passed from generation to generation, but accumulated returns did not. When a clan patriarch died, the Family Council redistributed these gains among the eleven clans to preserve the rankings of the eleven founding clans. *Clan assets* were the undisputed property of the individual clans, and could not be redistributed by the Family Council under normal circumstances.

The Sumitomo *zaibatsu* began when Tomomochi Soga, who married into the Sumitomo family and adopted its name, successfully reproduced a copper smelting method he had learned of from a Western merchant in Osaka. The method, which uses lead to extract silver and other impurities from copper ore, increases the efficiency of copper smelting drastically and remained in use in Japan until the late 19th century. Soga built a copper refinery in Kyoto in 1590, and then (with his father) opened a business in Osaka to license the new copper smelting method to competitors. This concentrated virtually all Japan's copper smelting in Osaka and earned Soga great respect. He marketed his copper products using the trade name *Sumitomo Izumiya*. In 1691 the family began mining copper at Besshi for the Shogunate.¹⁰ This proved extraordinarily lucrative, and financed virtually all subsequent Sumitomo businesses - including textiles, clothing, sugar and medicines. Subsequently a Sumitomo clan began a money exchange firm.

The Sumitomo Family Code resembled the Mitsui Code in many ways. However, a few differences are worth noting. The Sumitomo Code provided for its own revision, declaring a consensus of the Council sufficient to change the Code.¹¹ Perhaps more importantly, the Sumitomo Code had no provision governing inheritance or requiring continued family dominance. Nonetheless, family control was preserved, probably because of two other differences: First, the Sumitomo patriarch led a symbolic existence. He gave formal approval to matters set before him, but the Council actually made all significant decisions. This prevented one clan from dominating, and creating a situation where other clans might want out. Second, all family disputes, even ones within a single Sumitomo clan, had to be referred to the Council. This made the council aware of discontent within clans at early stages. It also created a much more centralized management structure than in the Mitsui group. Very detailed reporting of anything extraordinary to the upper ranks was required.¹²

Famines, riots, and especially a growing financial dependence of *samurai* on merchants slowly weakened Tokugawa rule. The Mitsui and Sumitomo families served the government in all manner of commercial and financial dealings. This "corruption" (by the standards of *bushido*) undermined Tokugawa legitimacy, as did incompetence and declining morality among the Tokugawa leadership. From the late 18th century on, Russia and other European nations tried to force Japan's market open. In 1853 and 1854, the American Commodore Perry bombarded Edo until the Tokugawa government agreed to open a limited number of ports to foreign trade.

However, foreign trade remained very limited until the *Meiji Restoration* in 1868. Contemptuous of the Tokugawa's increasingly craven attitude towards foreigners, a group of *samurai* captured the Emperor and seized power, claiming legitimacy by restoring his rightful rule. In fact, the Imperial family, which provided titular Emperors in Kyoto throughout the Edo Period, had been symbolic throughout Japanese history. Real power remained with these *samurai* now as well. Nonetheless, this era is called the *Meiji Period*, in honor of the emperor who reigned from 1868 to 1912.

⁹ See Yasuoka (1984) for details.

¹⁰ The Besshi copper mine remained in operation until 1973, and produced 700,000 tons of copper during its lifetime.

¹¹ See Yasuoka (1984) for details.

¹² See Asajima (1984).

3. Early Industrialization Following the Meiji Restoration

The new Meiji rulers quickly realized that, to gain freedom from foreign pressure, Japan needed Western technology and therefore Western ideas. They dispatched a cadre of Japan's brightest students to study abroad and return with descriptions of foreign institutions. The government then launched a two-decade program of modernization, copying what they perceived to be best practice abroad. This period in Japan's history closely resembles some of the "shock therapy" reforms of the 1990s in post-socialist states. In rapid fire, the new government introduced democracy modeled on the German Diet, compulsory education modeled on the French and German school systems, universities and an army modeled after those of Prussia, and a navy modeled after the British Royal Navy. Religious freedom, social mobility, and land reform quickly undermined both *bushido* and the caste system.

But most importantly, the Meiji government introduced the institutions of capitalism. During its crash modernization, Japan adopted a legal system largely based on German civil law. Public bond trading began in the 1870s, and in 1878 the Tokyo and Osaka Stock Exchanges were formed and subjected to regulation under the Stock Exchange Ordinance. Leading merchant families issued stock to finance industrialization and the great pyramidal *zaibatsu* groups that came to dominate Japan formed.

A central problem Meiji governments confronted was the distaste of the great mercantile families for pooling their capital with that of outsiders. On the one hand, the government wanted Japan's existing large businesses to grow, and this required respecting the sensibilities of their principals. On the other hand, the Meiji leaders knew that economic growth required strangers to pool capital. Apparently with government prodding, the Mitsui, the Ono and several other families formed the First National Bank. Yet the Mitsui and Ono could not get along. Dissatisfied, the Mitsui founded the Mitsui Bank in 1876. Similarly, after the Yasuda and Kawasaki set up the Third National Bank, the Yasuda set up their own Yasuda Bank in 1880.

This tension created apparent inconsistency in Meiji legal codes. For example, the 1896 civil code stipulates that "joint owners of property can demand their due shares of the property at any time." Yet the same code grants the head of a family control of family property, including that of sub-families, to provide for their future support.

The same tension affected the evolution of *zaibatsu*. The development of the Mitsui and Sumitomo groups is of interest, for both grew out of established merchant enterprises. But newly created *zaibatsu*, like Mitsubishi also grew to control firms in many industries.

Defining a *Zaibatsu*

Before proceeding further, it is useful to define *zaibatsu*, a term replete with the ambiguity Japanese so admire. Many academics and others, both inside and outside Japan, use the term to refer to all the large business groups in the country prior to World War II. These *zaibatsu* are often contrasted with the *keiretsu* of contemporary Japan. However, beyond that, there is no clear-cut unified definition of a *zaibatsu*. Several ambiguities are noteworthy.

First, the Japanese business and economic history literature generally holds that the *zaibatsu* developed in the Taisho period (1912 to 1926) after World War I.¹³ This seems to be because the term *zaibatsu* came into use in discussions of income distribution and monopoly capital (and Marxism) in the Taisho period. However, both the Mitsui and Sumitomo groups, always listed among the *zaibatsu*, formed long before this. Other major groups, like the Mitsubishi and Yasuda *zaibatsu*, became important in the Meiji period (1868 to 1912). Yet other *zaibatsu* clearly formed after World War I.

Second, even though *zaibatsu* typically implies family-control, the often-cited list of the ten main *zaibatsu* (Table 1) includes Nissan. As we show below, no family owned a majority of Nissan's stock through most of its existence. Nevertheless, Yoshisuke Aikawa and his family successfully maintained control until the end World War II.

¹³ Historians assign periods corresponding to the reigns of emperors. The Meiji period is from 1868 to 1912, the Taisho period is from 1912 to 1926, and the Showa period is from 1926 to 1989. Note that emperors choose official names upon their ascension. Thus in 1926, Hirohito chose the official name *Showa*, meaning enlightened peace.

[Table 1 about here]

Third, *zaibatsu* were often thought to have substantial monopoly power in many, not just a few, industries. Indeed, the US military government used industry market shares to ascertain whether or not a group was a *zaibatsu* and thus to be broken up. Fourth, *zaibatsu* are often thought to have been relatively independent of bank financing. Fifth, *zaibatsu* were business groups with vast land holdings under which lay great mineral wealth. Sixth, a *zaibatsu* was sometimes defined as a group of firms connected with, and dependent on, a general trading firm, or *sogo-shosha* (SS). Seventh, the term *zaibatsu* is now sometimes extended to cover family controlled groups of listed companies in developing economies in general.

Finally, *zaibatsu* had pyramidal structures. A family holding company or partnership controlled a set of directly-owned subsidiaries, which then controlled other firms, which then controlled yet other firms, and so on. The family usually had an operating decision rule for determining which firms to own directly versus indirectly. Figure 1 illustrates the stylized structure of a pyramidal corporate group.

[Figure 1 about here]

As we show below, the vague definition of *zaibatsu* in the minds of the Japanese and foreign architects of the postwar system may be, at least in part, responsible for their less-than-complete dissolution after the war.

We use the term *zaibatsu* to denote any large pyramidal group of listed firms. This distances the term from both origin and control, from contentious issues like monopoly power or land rents, and from difficult to measure concepts like the importance of bank financing or general trading firms. It also distinguishes the pyramidal *zaibatsu* from the *keiretsu* groups of postwar Japan, whose structure of intercorporate ownership is not pyramidal.

We use the term *apex firm* to denote the family controlled entity at the top of the pyramid. Firms whose shares it holds, we refer to as *directly controlled subsidiaries*. Firms it controls, but whose shares it does not hold, we call *indirectly controlled subsidiaries*. Indirectly controlled subsidiaries can be controlled either by directly controlled subsidiaries or other indirectly controlled subsidiaries. These terms are illustrated in Figure 1.

***Zaibatsu* Formation**

The development of *zaibatsu* (and other firms) was relatively unhindered by government intervention until the 1930s. Few regulations existed in financial markets, yet capital markets provided 87% of the new capital required by Japanese corporations in 1931. Rajan and Zingales (2003) describe a substantial stock market in early twentieth century Japan, despite the absence of well defined shareholder rights. Corporate governance was generally in the hands of controlling shareholders – usually wealthy families. Banks had little or no corporate governance role. Public shareholders bet on the honesty of insiders.

The main *zaibatsu* families first expanded beyond their traditional businesses when the Meiji government undertook a mass privatization in 1880. The state had established industries it deemed essential to modernization, but accumulated a huge public debt doing so. To solve this fiscal problem, the government implemented a mass sell-off of state-owned enterprises in all areas except munitions. Included were factories producing virtually all important manufactured goods - steel, cement, coal, metals, machines, ships, textiles, etc.

The main buyers, Mitsui, Mitsubishi, Sumitomo, and a few other *zaibatsu* thus entered new lines of business.¹⁴ Although there was no clear cut method of allocating state-owned factories, each of the three main *zaibatsu* ended up with some assets in each key industries: mining, shipbuilding, machinery, textile, and so on.

¹⁴ Some historians consider this the ‘beginning’ of Japan’s *zaibatsu*.

***Zaibatsu* Expansion and the Problem of Preserving Insider Control**

One of the most important corporate governance considerations for business families during this period was preserving family control over while satisfying an ever-growing need for capital. Families that kept their firms unlisted found this growing need for capital a serious problem.

Such problems were not new. As the number of relatives grew with each generation, preserving meaningful control for the patriarch had always presented problems. As mentioned above, and illustrated in Table 2, the Mitsui family redistributed assets to the different clans of the Mitsui family continuously since its foundation in 1694. The stakes are remarkably stable.

[Table 2 about here]

Nonetheless, the Mitsui patriarch dictated most family businesses decisions. This system, divided ownership with an imposed centralized control that largely negated the rights of individual owners, grew increasingly difficult to maintain. The problem grew even worse when the Meiji government instituted new laws affirming individual ownership rights. Although these rights could be relaxed in family firms to preserve the power of the patriarch, this exemption did not extend beyond blood kin – for example, to share owning employees.

This presented problems, for shareholders who were not blood kin had become common. It made sense to reward competent hired managers with shares. And sometimes competent hired managers, rewarded in other ways, grew wealthy and demanded the right to buy stock.

When the Meiji government established the Civil Code, large family businesses were usually recognized as general partnerships. As more outsiders supplied capital, and as each new generation created more insiders, these businesses found the legal status of a limited partnership advantageous. In 1893, when Japan enacted a Commercial Code, many *zaibatsu* holding company partnerships incorporated, though most remained unlisted. More new laws on ownership granted hired managers who had become shareholders a legal status equal to that of family members. This was difficult for the great families to accept, but the concept of random members of society buying and selling such a status was intolerable.

Even letting skilled managers and distant relatives hold shares often proved unbearable, and controlling families often went to considerable lengths to repair such perceived errors. For example, the Mitsui Bank, founded in 1876, soon had more than four hundred manager- shareholders. When the Mitsui reorganized it as a general partnership in 1893, they bought up all of these shares. When the Kamoike *zaibatsu* family established the Thirteenth National Bank, forty distant relatives were shareholders. In 1897, the family's main branch bought them out and re-established the bank as the Kamoike Bank, privately owned by the Kamoike patriarch.¹⁵

This sort of response is perhaps understandable, for successful family businesses operated with a common objective imposed by a core of family values, traditions, and history. Outsiders, even very competent ones, could not share fully in this, and their input would surely appear to the family as interference. Nevertheless, family firms closed to outsiders risked alienating their best managers, and being shut out of the top end of the managerial labor market. Family businesses lacking management skill among blood kin, and unable to hire it, risked degeneration.

Some *zaibatsu*, most notably the Mitsui and Sumitomo, were particularly successful in growing rapidly without outside equity financing. Their success has been attributed to a series of highly competent hired managers, but their connections with important political leaders were certainly at least as important as their raw competence.

The Sumitomo family drew a lucrative cash cow from the Besshi copper mines they obtained from the Shogunate, and so could afford to keep more distant from the Meiji government – at least initially. The Mitsui, however, needed the Meiji government's gratitude. They gained this by financing

¹⁵ The Kamoike Bank subsequently became the Sanwa Bank, which evolved into the current UFJ Bank.

the struggling new government in its critical first years. In return, Mitsui was appointed Government Treasury Agent, a duty that provided many opportunities.

To fulfill its treasury duties, the Mitsui established a national network of branch offices. These generated cash flows from treasury business, and served as bases for other trading. Business grew so fast that the Mitsui had to set up the *Kokusangata Karihonten*, or Temporary Head Office for Domestic Trade, in Tokyo in 1874. Learning of the Meiji government's aim of promoting foreign trade, the Mitsui began selling silk yarn and tea to western merchants for commissions, and shipping imports between Tokyo and Yokohama.¹⁶ Mitsui's trading business, handled by employees steeped in Tokugawa traditions, lost money. In 1876, Mitsui was about to close its trading ventures when Kaoru Inoue (1835-1915), a leading Meiji politician, offered his Senshusha company to Mitsui to raise political funds.¹⁷ Mitsui jumped at this, for Senshusha came not only with government contracts, but with its top manager, Takashi Masuda, who trained at the largest American merchant house in Japan. Mitsui established Mitsui Bussan (Mitsui & Co.) in July 1876 by merging Senshusha and the Temporary Head Office for Domestic Trade, and appointed Masuda manager.

Mitsui Bussan's first government business was a monopoly selling coal from the state-owned Miike mine. Exporting Miike coal on commission to China through Shanghai was highly profitable, and Mitsui Bussan established its first foreign office in there late in 1876. This let Mitsui Bussan acquire international trade experience. Since Mitsui Bussan traded coal, like all other items, entirely on commission, its capital requirements were minimal. The only financing the Mitsui provided was a ¥50,000 overdraft allowance from the Mitsui Bank. In 1877, Mitsui Bussan made ¥200,000 – a fortune at the time - supplying sixty percent of the military procurements for the Seinan War, a large operation to put down rebellion in Kyushu in 1877.

The Sumitomo and Mitsui were not the only great Takagawa merchant houses. But, they were the only ones to expand their capital bases as the economy grew, and were clearly the most adept at positioning themselves to assist the government in implementing its economic policies. Other great business families of the Tokugawa era, such as the Kamoike *zaibatsu*, were less nimble, grew too slowly, and were gradually eclipsed.

Expanding the capital base by bringing in outsiders held a different danger. New investors could seize control, reducing the family to a limited partner. Both the Shimomura and Ohmura *zaibatsu* brought in outside investors who took control. Even worse from the perspective of the old families, the new controlling shareholders shifted the business out of the (money losing) traditional Japanese clothing business and into department store-based retailing.

Despite their freedom from outside shareholders, the Mitsui faced legal problems when different branches of the family began exerting their new rights as investors. Preserving control while accessing ever greater capital, whether from more distant relatives or strangers, became increasingly difficult.

Pyramids as a Solution

In his memoirs, Yoshisuke Aikawa (1934), the founder of the Nissan *zaibatsu*, describes pyramidal groups as an elegant solution to all of these problems – they preserve total control by insiders while permitting access to limitless capital. To see this, consider a family with a fortune of ¥1 billion invested in a family business, Choten Corp.¹⁸ The family sees a multitude of profitable business opportunities, and feels it could profitably invest many billions of yen. To see how the family can undertake all of these investments by constructing a pyramidal group, yet retain control of Choten and all these new ventures, return to Figure 1.

¹⁶ See Yamamura (1976).

¹⁷ Inoue subsequently served as Minister of Foreign Affairs, the Interior, and Finance, and also as Privy Councilor. Senshusha, established in 1872 by Inoue and others, was a moderately successful trading business, mostly due to Inoue's political influence. Its primary business was executing government procurement orders for imports for Inoue's powerful political associates. Senshusha imported wool, guns, and fertilizer; and exported rice, tea and silk.

¹⁸ *Choten* is Japanese for *apex*.

First, the family expands Choten Corp by issuing new public shares worth almost ¥1 billion. Public shareholders end up owning almost fifty percent of Choten, which is now worth almost ¥2 billion. This gives the family almost ¥1 billion in cash, yet preserves its complete control of the family business. The latter is because its fifty-percent-plus stake lets it appoint the board of directors. Choten is now set to become the apex firm of the pyramidal group.

Next, the family organizes two new firms, Hitotsu-Ichi Corp. and Hitotsu-Ni Corp.¹⁹ Each is financed with a ¥500 million equity investment from Choten and a public offering to raise almost ¥500 million by selling outside shareholders almost fifty percent. Hitotsu-Ichi and Hitotsu-Ni now each have ¥1 billion. The family now fully controls three firms, with unconsolidated balance sheets totaling ¥4 billion, and ¥3 billion in consolidated assets. The family's control is complete because it fully controls Choten, and Choten's board votes a fifty-percent-plus stake in both Hitotsu-Ichi Corp. and Hitotsu-Ni Corp., and thus controls their boards.

To expand further, the family has Hitotsu-Ichi and Hitotsu-Ni set up four new firms. Hitotsu-Ichi organizes Futatsu-Ichi and Futatsu-Ni, financing each with a ¥500 million equity investment and a public offering to raise almost ¥500 million by selling outside shareholders almost fifty percent. Hitotsu-Ni Corp. organizes Futatsu-San and Futatsu-Yon similarly. The family now fully controls seven firms, with unconsolidated values totaling ¥8 billion and ¥5 billion in consolidated assets.

In the next step, each Futatsu-level firm organizes two new companies. The family now fully controls fifteen firms, with unconsolidated balance sheets totaling ¥16 billion and ¥9 billion in consolidated assets. Each Mitsuru level firm can then similarly organize two Yottsu level firms, resulting in a pyramid of thirty-one firms worth ¥32 billion on paper and holding ¥17 billion in consolidated assets. This process can be repeated until the family runs out of attractive investment opportunities. A pyramid with n tiers contains $2^n - 1$ firms, with unconsolidated book values totaling 2^n billion yen and consolidated assets worth $\frac{1}{2}\left(3 + \sum_{v=1}^n v\right)$ yen.

Thus, a five-tier pyramid lets the family raise ¥14 billion in public equity but retain complete control. Had the family instead issued ¥14 billion in additional Choten shares, their stake would have been diluted to one fifteenth or 6.67 percent and they would have lost control.

The elegance and simplicity of this solution, later extolled by Aikawa (1934), the founder of the Nissan zaibatsu, appealed to the great mercantile families, for they enthusiastically embraced this model to build the vast prewar *zaibatsu*. Both public investors and querulous relatives could be tapped for capital *and* excluded from corporate governance.

Of course, variations from this formula were possible. For instance, the controlling families often kept the apex firm of the pyramid unlisted. They thus used only family money to establish the first tier of subsidiaries. Since the Mitsui and Sumitomo families had both run highly profitable businesses for generations, their accumulated retained earnings easily let them skip the first step in the above recipe. In contrast, later groups, like Nissan, had public shareholders in their apex firms. Non-voting or super-voting shares permitted much more leverage at each tier. Firms at different levels could also have real assets and engage in real business while serving as holding companies for firms in lower tiers. Actual pyramids were much messier than Figure 1, in that different levels of firms sometimes cooperated to control firms in all levels, including higher tiers of the pyramid. Nonetheless, Figure 1 captures the essential logic of a pyramidal group.

Figures 2 and 3 illustrate the actual structures of the Mitsui and Sumitomo groups at their greatest extent.

[Figures 2 and 3 about here]

Japan, of course, was not the only country whose business tycoons came to appreciate pyramidal groups as a solution to the quandary of tapping public equity financing without risking the loss of

¹⁹ In one Japanese counting system, *hitotsu* is one, *futatsu* is two, *mitsuru* is three, and *yottsu* is four. In another, *ichi* is one, *ni* is two, *san* is three, and *yon* is four. The appropriate use of the two systems is a matter of grammar.

corporate governance power. As the other chapters of this book show, *zaibatsu* were commonplace in Canada, the United States, and Europe during this period as well. And as La Porta *et al.* (1999) show, *zaibatsu* remain the most commonplace ownership structure everywhere except Japan, the United States, and the United Kingdom at the end of the twentieth century too, though the term pyramidal group is used outside Japan.

The Big Four *Zaibatsu*

While the Mitsui and Sumitomo *zaibatsu* may be said to have formed in the late 19th century in the sense that the pyramidal groups formed at that time, both have their true origins in the Tokugawa period. However, other *zaibatsu* were genuinely new. The largest were Mitsubishi and Yasuda. These four were the largest *zaibatsu*, so their development merits close inspection.

The founding of the Tokyo and Osaka Stock Exchanges in 1877 allowed Japanese companies to tap capital from individual investors. Mitsui and Sumitomo both began expanding by constructing pyramids. However, their first investments outside their primary lines of business were relatively small, experimental and limited.

Thus, the Mitsui family, having begun as silk merchants, expanded into areas related to clothing manufacture and sale. The family established trading operations in other commodities to facilitate barter transactions for silk, and a currency exchange operation to deal with foreign companies. However, the Mitsui did invest significant capital in other ventures from time to time. During the first twenty years of the Meiji era, the government established state-owned enterprises to develop strategically important industries. Mitsui often cooperated in these projects, and became the government's favored partner in many such ventures.

Towards the end of the 19th century, the government's fiscal problems necessitated a mass privatization of all state-owned enterprises, save armament factories, postal and telegraph systems, mints, and railroads. The magnitude of this mass divestiture was unprecedented. Between 1874 and 1896 alone, twenty six major government projects - including coal, copper, silver and gold mines, cotton and silk spinning mills, shipyards, cement factory, iron works, sugar refinery and glass factory - were transferred to private owners – usually the large *zaibatsu*.

However, except for these privatized enterprises, the great *zaibatsu* remained commerce-based. Only at the century's end did they diversify further, and this was often at the prodding of hired managers, not family members. Extensive diversification would wait until after the First World War. Morikawa (1992, p. 27) argues that it took time for people knowledgeable of the possibilities opened by limited liability and stock markets to attain positions of influence.

Economic historians' assessment of the mass privatization is mixed.

The limited number of bidders, their political acuity, and the government's financial exigency perhaps made for bargain prices. The great *zaibatsu* families were well connected, and though some sales were auctions, others were negotiated privately. The great *zaibatsu* families were also virtually the only entities with pockets deep enough to participate extensively.

Certainly, most privatization prices were far lower than the Meiji government's capital outlays in establishing these enterprises.²⁰ However, many state-owned enterprises were in dismal shape, and

²⁰ For example, Takashima Coal Mine (government outlay by 1885, ¥393,848) fetched ¥550,000 in 1874 from Shoraisha, owned by Shojiro Goto, who resold it to Mitsubishi's Iwasaki family in 1881. Other examples include the Shinmachi Silk Spinning Mill (set-up cost ¥138,984), sold to Mitsui in 1887 for ¥141,000; the Nagasaki Shipyard (¥1,130,949 yen), sold to Mitsubishi for ¥459,000; Tomioka Filature (¥310,000) was sold to Mitsui in 1893 for ¥121,460; the Sado Gold Mine (¥1,419,244) and the Ikuno Silver Mine (¥1,760,866), sold together to Mitsubishi in 1896 for ¥2,560,926; and Kamaishi Iron Works (¥2,376,625), sold to Chobei Tanaka, an iron merchant and supplier for the Japanese army and navy, in 1887 for ¥12,600. Tanaka subsequently sold Kamaishi Iron Works to his company, Kamaishi Mining, in 1924, and then divested it to Nippon Steel. Tanaka and the Kamaishi Mining succeeded spectacularly, gaining a 72% market share in pig iron by 1900. The rarity of exceptions, such as the sale of the Miike Coal Mine (setup cost ¥757,060), sold to Mitsui in 1888 for ¥4,590,439, only accentuates the low privatization prices. For further details, see Kobayashi (1985), pp.64-65.

although many privatized enterprises encountered serious difficulties, the Japanese government rarely provided direct subsidies. When an 1889 earthquake destroyed the Kattate shaft of Mitsui's Miike coal mine, Finance Minister Matsukata refused Mitsui pleas, supported by cabinet ministers, for subsidies and a debt rescheduling. Mitsui completed its payments in 1902, as per the original agreement. Of course the state did provide generous tariff protection and other indirect assistance to insure the success of the privatized enterprises.

Regardless of the government's intentions, many privatizations turned out to be plums. At the time, mining was highly profitable because of the expense of importing. Privatized mining companies, acquired by the Mitsui and Mitsubishi at this time, served as core cash cows until the mid 1950s, when major veins were exhausted. Most *zaibatsu* electric equipment manufacturers also developed by supplying equipment to their affiliated mining companies.

The positions of different firms within the *zaibatsu* pyramids were apparently of great concern. From time to time, weaker businesses were moved to lower tiers and stronger businesses to higher tiers.

For example, Mitsui's primary lines of business were still Japanese clothing and money exchange when the family diversified into banking in 1876. When Japanese clothing sales became shaky around 1873, the family had restructured the pyramid, moving that business to a lower tier and delegating its management to distant relatives. The Mitsui Bank became increasingly profitable, and served as the apex firm of the Mitsui *zaibatsu* until 1893.

Again, in 1909, the Mitsui Council restructured the pyramid, creating a holding company at the apex to control the Mitsui Bank, Mitsui Mining, and the trading firm Mitsui Bussan. This was accompanied by a major rearrangement of firms throughout the pyramid, with good performers moving closer to the apex and weak firms moving closer deeper into the pyramid. Morikawa (1980, pp. 46-57) and others argue that greater direct ownership by the Mitsui family indicates a greater family "concern" for a firm. The placement of undoubtedly key companies in deep levels of the Mitsui pyramid confutes this. For example, the Mitsui moved Mitsukoshi, the direct descendent of their original silk business, to a low tier after its conversion into a western-style department store chain in 1904. Oji Paper and Kanebo, firms of considerable national importance, were also low in the pyramid. Shibura Engineering Works, which merged with Tokyo Electric to form Tokyo Shibura (Toshiba) Electric in 1939, was also not a core Mitsui firm.²¹ General Electric had obtained 25 to 30% of Shibaura in 1904 for technology licenses.²²

It seems likely that firms' positions in the pyramids were also selected to facilitate tunneling – self-dealing to concentrate profits in firms owned directly by the Mitsui and losses in firms merely controlled by them. This readily explains the better apparent performance of firms higher in the pyramids, and the location of many clearly important firms in lower tiers.²³ Certainly, Shibura's performance in the early 1900s lagged that of other major Mitsui firms.

Records attest that the Mitsui head office carefully considered which companies to place where in the group pyramid, and what stakes each company should hold in other group firms. As the *zaibatsu* grew ever more complex from 1912 to 1930, the lower tiers were periodically drastically restructured, but the apex tiers changed little. The Mitsui Bank, Mitsui Bussan, Mitsui Mining and Toshin Warehousing

²¹ Morikawa (1980) proposes that some Mitsui top managers and partners recognized the importance of Shibaura's operations, could not understand them. The Mitsui considered divesting Shibaura in 1902, but opposition from Mitsui Mining and others forestalled this. Shibaura went public as a Mitsui group company in 1904.

²² *Zaibatsu* were often important technology importers, see Goto (1982).

²³ See e.g. Claessens, Djankov, and Lang (2000), Claessens, Djankov, Fan, and Lang (2002), Faccio and Lang (2003), Bertrand, Mehra and Mullainathan (2002) and Johson, La Porta, Lopez-de-Silanes and Shleifer (2000). Recent work suggests that tunneling is more common in countries whose minority shareholders are poorly protected, like Japan throughout its history. Shareholder rights were poorly protected before the war, and La Porta *et al.* (1997) assign Japan one out of six in an international comparison of shareholder rights. Porter (1990) argues that weak shareholder rights advantaged Japanese companies by freeing their managers from myopic shareholders; but Morck and Nakamura (1999) dispute this. At present, shareholder rights remain a controversial issue in Japan.

remained direct subsidiaries of the Mitsui partnership. The only significant change was the addition of the Mitsui Life Insurance and Mitsui Trust Bank as direct subsidiaries after 1912.²⁴

Table 3 shows that the amounts of other companies' shares held by these three Mitsui firms were already significant by the early 1900s, though Mitsui Bussan's holding was relatively minor compared to the other two Mitsui family firms.

[Table 3 about here]

Mitsui's most intensive diversification began with Mitsui Mining's entry into chemicals in the early 1910s. Mitsui Bussan founded a shipbuilding company in 1917, purchased an iron and steel firm in 1924, and established Toyo Rayon to enter chemical textiles. This wave of diversification was undertaken exclusively through new subsidiaries of Mitsui Mining, the Mitsui Bank and Mitsui Bussan, or through new subsidiaries of subsidiaries. Table 4 shows the extent of this expansion, and Figures 2 and 3 illustrate the structure of the zaibatsu at this point.

[Table 4 and Figures 2 and 3 about here]

Figure 4 shows the Sumitomo pyramid with a structure quite similar to the Mitsui pyramid. Financial institutions sit near the apex, and industrial firms fill lower tiers. Direct Sumitomo subsidiaries include a bank, *sogo shosha* (general trading firm), trust bank, insurance firm, mining company and warehousing operation. Relatively fewer Sumitomo companies had publicly traded shares. The Sumitomo Bank went public in 1917, Sumitomo Trust in 1925, Sumitomo Chemical in 1934, Sumitomo Metal Industrials in 1935, and Sumitomo Electric Wire and Cable Works in 1937. Other Sumitomo firms remained unlisted until relatively late.

[Figure 4 about here]

The Yasuda *zaibatsu*, whose structure also follows this pattern, is new compared to Mitsui and Sumitomo. The Yasuda *zaibatsu* began at the end of the Tokogawa era, when Zenjiro Yasuda (1838-1922), the son of a poor samurai in Toyama, moved to Edo and obtained work in a money changing house. In 1863 he began providing tax-farming services to the Shogunate, overseeing the collection and transport of silver and gold. After the Restoration, he provided the same services to the Meiji. Yasuda profited from the delay between the collection of taxes and their forwarding to the government. He greatly magnified his wealth by buying up depreciated Meiji paper money that the government subsequently exchanged for gold.

Yasuda and Kawasaki established the Third National Bank in 1876, and then Yasuda set up its own Yasuda Bank in 1880. Although the Yasuda Bank's investors consisted of several members of the Yasuda family, it seems likely that Zenjiro provided all its initial ¥200,000 capitalization. Zenjiro needed several family members to satisfy the Meiji government's dictate that no single investor establish a bank.

In 1887 Zenjiro capitalized his family company, Hozensha, with an initial one million yen, designated as the paid-in capital of the Yasuda Bank. Zenjiro assigned half to Hozansha, and the other half to ten of his relatives: six Yasuda families given ¥360,000, two branch clans given ¥80,000 and two other relations given ¥60,000. Hozensha's ¥500,000 of stocks were designated the common property of the six Yasuda families. The charter Zenjiro established forbade the transfer of Yasuda Bank, even within the family. No certificates were issued and ownership was recorded in a registration book in Hozensha's safe. Yasuda Bank shareholders also relinquished the right to embark on commercial activities of their own.

²⁴ See Tamaki (1976, pp .84-86). Fruin (1992, pp.100-102) describes how the Mitsubishi pyramid was reorganized several times between 1916 and 1926, and argues that this reflected evolving strategic considerations such as economies of scope and scale.

After observing the 1909 reorganization of Mitsui as a general partnership, Yasuda reorganized Hozensha similarly in 1912. The partnership served as a holding company for Yasuda's securities, properties and business operations. By this time, the Yasuda *zaibatsu* already contained seventeen banks and sixteen other business operations. New biological and adopted sons boosted the number of Yasuda family investors from ten to thirteen. In 1919 Yasuda established its House Constitution, freezing the number of Yasuda investors at thirteen. The Yasuda *zaibatsu* remained focused on financial businesses. By not expanding into capital-hungry heavy industries as aggressively as the other great *zaibatsu*, Yasuda limited public shareholders' participation.²⁵ Table 5 summarizing the industrial diversification of the ten major prewar *zaibatsu* illustrates this focus.

[Table 5 about here]

The Yasuda focus on banking was narrowed by the merger of eleven Yasuda-controlled banks into the Yasuda Bank in 1913. The new bank was the greatest of all the *zaibatsu* banks, with a 1913 paid-in capital of ¥150 million – compared to ¥600 thousand, ¥500 thousand, ¥430 thousand, and ¥300 thousand for the Mitsui, Sumitomo, Daiichi, and Mitsubishi banks, respectively. The Yasuda Bank continued expanding via mergers with other banks, and rapidly developed strong relationships with the smaller Azano and Mori *zaibatsu*. These ties gave the Yasuda Bank an industrially diversified loan portfolio, but the Yasuda core businesses remained financial – encompassing banking, insurance, and other financial services. As Table 5 shows, the House of Yasuda limited its entry into heavy industries even during World War II.

The Mitsubishi *zaibatsu* began as Tsukumo Co., and was renamed Mitsukawa Company in 1872 because it had three (*mitsu*) owners - S. Ishikawa (1828-1882), S. Kawada (1836-1896), and K. Nakagawa.²⁶ In 1873 Mitsukawa Co was renamed as Mitsubishi Co., which appears to have been a limited partnership between the three original owners and Yataro Iwasaki (1834-1885). After Yataro's death, his son Hisaya (1865-1955) and Hisaya's younger brother Yanosuke (1851-1904) joined the partnership. The Mitsubishi partnership was dissolved around 1891, and Hisaya and Yanosuke Iwasaki each invested ¥250 million in 1893 to set up a new limited partnership – also called the Mitsubishi Company.

The Mitsubishi Company's direct subsidiaries included Mitsubishi Shipbuilding and Mitsubishi Mining, which both extensively developed privatized state-owned enterprises the *zaibatsu* purchased. Unlike the Mitsui, Sumitomo, and Yasuda charters, the Mitsubishi Charter allowed each Iwasaki clan to retain their income and start up their own businesses. This flexibility let individual Iwasaki clans enthusiastically captured business opportunities that Mitsubishi itself could not. For example, Horaisha bought the privatized Takashima Coal Mine, whose continuing government subsidies prevented direct Mitsubishi ownership.²⁷ Other important *de facto* Mitsubishi firms, like Asahi Glass, Meiji Life Insurance, and Kirin Beer, were *de jure* separate from the Mitsubishi *zaibatsu*. This was clearly a bureaucratic slight of hand, for these companies had extensive financing and other relationships with formal members of the Mitsubishi *zaibatsu* and were controlled by the Iwasaki family. These firms also all became Mitsubishi *keiretsu* companies after World War II.

Mitsubishi Company, the pyramid's apex, was reorganized as a joint stock company in 1937 and shares were distributed to Iwasaki relatives and seven unrelated executives, all of whom were forbidden from transferring their shares without permission from the company. In 1940 the company raised its paid-in capital from ¥120 million to ¥240 million and the original two Iwasaki families together retained a 47.5% stake.

²⁵ A reorganization as a joint stock company was discussed during World War II, but never implemented.

²⁶ Nakagawa's birth or death dates are unknown. One variant of the number *three* in Japanese is *mitsu*. The precise origin of the Mitsubishi group is a somewhat contentious issue among Japanese historians. See Mishima (1981).

²⁷ The Iwasaki family was only allowed to purchase it from Horaisha when Takashima experienced financial distress. See Yasuoka (1976, p.64) for details.

Although Mitsubishi, like Mitsui and Sumitomo, remained family controlled, the Iwasaki used marriage extensively to bring talented men into the family. Thus, unusually in a family enterprise, marriageable daughters were valued as highly as sons, if not more highly.²⁸

Mitsubishi Company's stakes in direct subsidiaries, like the Mitsubishi Bank and Mitsubishi Corporation, were small, averaging around 30%, versus 66% for Mitsui. Similarly Mitsubishi's average ownership in direct subsidiaries of direct subsidiaries was only 18%, versus 9% for Mitsui. The Mitsubishi *zaibatsu* was less averse to issuing public equity, and so expanded further into capital-intensive industries like machinery, mining, finance, and shipping. This made Mitsubishi firms market leaders in these rising sectors, yet the Iwasakis retained full control, for their stakes were always sufficient to dominate shareholder meetings.²⁹

Figure 5 illustrates the structure of the Mitsubishi *zaibatsu* as it later developed.

[Figure 5 about here]

Industrial Zaibatsu

The Mitsui, Sumitomo, Mitsubishi, and Yasuda *zaibatsu* are generally ranked the major family controlled pyramidal groups of prewar Japan. Three other *zaibatsu* were also important, but their influence extended along specific product chains and did not include banks or financial firms.

These so-called *industrial zaibatsu* included the Asano group, built by Soichiro Asano (1848-1930) around the Asano Cement Company, the Kawasaki group, built around Kawasaki Shipbuilding Co. by Shozo Kawasaki (1837-1911), and the Furukawa group, built by Ichibei Furukawa (1832-1903) around his Ashio Copper Mines Co.

Widely Held Zaibatsu

In addition to the four major family *zaibatsu* and the three industrial *zaibatsu*, five other pyramidal groups emerged in the early 1900s - Nissan, Nichitsu, Mori, Nisso and Riken. These structures grew with the stock market, which became much more active in the 1900s. Share prices rose rapidly from 1917 to 1919, and individual investors, like landlords and other property owners, bought heavily in equity.³⁰ This augmented flow of capital into the market allowed, and perhaps arose from, the construction of pyramids financed with public equity throughout.

While the Mitsui, Mitsubishi and Sumitomo apex firms were family owned, these new *widely held zaibatsu* had widely held apex firms. Though their founders often held quite small equity stakes in the apex firms, they had little fear of losing control because they were usually highly skilled engineers, whose expertise was essential to critical company operations. The chemistry experts Shitagu Noguchi, Tomonori Nakano, and Nobuteru Mori built the new Nichitsu, Nisso, and Mori *zaibatsu*, respectively. Masatoshi Okochi, an expert in machinery manufacture, built the new Riken *zaibatsu*; and the all around genius Yoshisuke Aikawa built Nissan into a large, diversified *zaibatsu*, though machinery remained its most important business.

This technical expertise factor kept these new *zaibatsu* focused on heavy industry, chemicals, and electric power. However, as they grew, they also diversified to compete directly with family *zaibatsu*. Widely held *zaibatsu*, like industrial *zaibatsu*, did not control financial institutions and relied heavily on outside finance.

The development of the widely held *zaibatsu* can best be illustrated by the history of the largest such group – Nissan. The Nissan group was founded by Yoshisuke Aikawa (1880 - 1967) in a rather roundabout way.

By 1919, Aikawa's brother-in-law, Husanosuke Kuhara (1869-1965) had acquired 30% of Japan's domestic copper mines, 40% of its gold mines, and 50% of its silver mines. He accomplished this

²⁸ Morikawa (1992), p.53.

²⁹ For details, see Mishima (1981), pp. 340-341.

³⁰ Hashimoto (1997), p.101.

by floating ¥2.4 million in an initial public offering of his Kuhara Mining Company. After the First World War, Japan experienced a series of depressions, and Kuhara Mining was badly hurt. When its subsidiary, Kuhara Trading, failed, Kuhara was forced to retire on a sick leave. He delegated the rebuilding of his company to his brother-in-law, Yoshisuke Aikawa, whose own much smaller firm, Tobata Cast Iron, had survived the depressions. Aikawa was an engineer who had studied state-of-the-art iron casting in the United States. To save Kuhara Mining, he pooled his own money and funds from relatives, managers, and outsiders to inject more than ¥25 million into the company.³¹

Having dealt successfully with Kuhara Mining's debt crisis, Aikawa joined its board in 1926 and quickly replaced Kuhara as president. To put the firm on a solid long-term financial course, Aikawa needed to raise more capital without losing control. In December 1928 he listed a new holding company, Nippon Sangyo (Nissan). Simultaneously he also organized Nippon Mining, into which he merged Kuhara Mining. Since Table 6 shows that Kuhara Mining had many public shareholders, this merger left Nippon Mining publicly held, but controlled through a majority stake by Nissan.

Aikawa understood that Nissan, or any other new *zaibatsu*, would need substantial capital very quickly to achieve economies of scale comparable to those of the existing *zaibatsu*. The funds needed were far beyond his family assets, so bringing public shareholders in was unavoidable. Aikawa clearly understood the efficacy of pyramidal groups for tapping unlimited outside capital while retaining full corporate governance control. Figure 6 is Aikawa's (1934) vision of how a pyramid of listed subsidiaries, subsidiaries of subsidiaries, and so on, can put an unlimited amount of public stockholders' capital under his control.

Aikawa (1934) recognized that, since the apex firm of his pyramid was widely held, it was his responsibility to make sure the company always make acceptable profits and that its shareholders received a stable payment of dividends.³² Some 70% of Nissan's assets were shares in Nippon Mining, so Nissan was still dangerously exposed to that sector, which remained chronically weak until the Japanese government began accumulating gold in 1932. Using this business upturn, Aikawa sold Nippon Mining shares and used the funds raised to diversify Nissan's holdings extensively.

Aikawa's main strategy was to purchase promising firms, develop them as fully owned subsidiaries, and then take them public through IPOs. In creating these spin-offs, or *bunshin kaisha*, Nissan's role in Japan's development resembled that of venture capital firms in the United States – see e.g. Gompers and Lerner (2002). However, while venture capitalists seek to sell their start-ups completely to the public to raise funds for the next venture, Nissan always retained a control block, using further IPOs to extend the pyramid. This appears to reflect Aikawa's desire to retain a final say in important decisions.

Nissan's partially spun-off subsidiaries usually prospered, further enriching both Nissan's shareholders and their own. Subsidiaries acquired or spun off their own subsidiaries, and the pyramidal structure expanded. Nissan's own paid-in capital increased from ¥5.25 million in 1933 to ¥198.37 million in 1937. During the same period, its total assets increased from ¥91.08 million to ¥383.10 million and its securities held increased from ¥53.38 million to ¥269.92 million. Table 6 shows Nissan's share price for the period 1930-1937.

[Table 6 and Figure 6 about here]

All the while, Nissan itself became ever more widely held. By May 1937, Nissan had 51,804 shareholders, 50,783 of whom owned fewer than 500 shares. The fraction of shares Aikawa and his relatives held continued to fall – from 19.2% in 1929 to only 4.5% in 1937. By 1937, only four shareholders, including Aikawa, held more than 10,000 Nissan shares.

³¹ He was widely expected to fail. Kuhara was compared at the time to Suzuki, described below. That Kuhara ultimately prospered and formed the basis of a new *zaibatsu*, while Suzuki failed and brought down an entire *zaibatsu*, greatly enhanced Aikawa's standing.

³² Though Aikawa (1934) also justifies “management nationalism” as a legitimate reason for having invested in “a few new business lines” which he thought were promising in the future but would currently generate no returns in the near term.

By this time Nissan Table 7 shows Nissan at the apex of a pyramid exceeded in scale only by the Mitsui and Mitsubishi groups. The Nissan group now included Nippon Mining, Hitachi, Ltd., Hitachi Power, Nissan Motor and many other large manufacturers and utilities.³³

[Table 7 about here]

Local Zaibatsu

There were many locally important business families in Japan at this time, whose operations were limited to specific geographical areas (e.g. prefecture) and usually also specific lines of business. These families accumulated wealth in closely held family firms, and then used this wealth to expand into new businesses, sometimes bringing in other local investors. Mostly, these pyramidal structures remained small, but a few acquired national scope - though they kept their head offices in the original localities. In general, these local *zaibatsu* did not develop into highly industrialized operations. It is possible that their limited access to capital explains this. Indeed, their dominance in certain regions may explain why industrialization favored some regions over others.

The role of local *zaibatsu* in regional development remains poorly understood. Important local *zaibatsu* include the Nakano group, based in Niigata, the Itaya group of Hokkaido, the Ito group based in Nagoya, another Ito group in Hyogo, the Yasukawa group of Fukuoka, the Kaishima group of Fukuoka, and the Katakura of Nagano. Figure 7 describes some of these groups.

[Figure 7 about here]

The Zaibatsu and Independent Companies

Numerous independent entrepreneurs also shaped the economy in this era. Sakichi Toyoda patented the Toyoda wooden hand loom in 1891, and an innovative automatic loom in 1924.³⁴ Platt Brothers & Co. of England, a world leader in looms, paid the 1929 equivalent of one million yen for the rights, and Toyoda later used these funds to found Toyota Motors. Another important entrepreneur, Konosuke Matsushita, founded Matsushita Electric Industries in Osaka in 1918 and developed it into one of the world's largest electronics manufacturers. Many of these new ventures were affiliated with established *zaibatsu* to varying degrees.

Toyota was affiliated with the Mitsui *zaibatsu* until the end of World War II and the Mitsui *keiretsu* after the war.³⁵ In 1898, Mitsui Bussan agreed to market Toyoda's products. When Toyoda set up his own textiles firm, Toyoda Shokai, Mitsui Bussan provided capital. When he established Toyoda Style Textile Machines, a predecessor to Toyoda Boshokuki, in 1906, Mitsui Bussan again provided capital. The Toyoda and Mitsui continued to have close business and family ties. For example, Sakichi Toyoda adopted his son-in-law, Risaburo Toyoda (formerly Risaburo Kogama), the second son of the Kogama family, which ran Mitsui's Toyo Menka. Risaburo subsequently became the first president of Toyota Motor.³⁶

³³ Unlike Mitsui and Mitsubishi which kept full family control of their holding companies (first as partnerships and then as joint stock companies) until the end of World War II, Nissan's equity ownership was more widely held and became more so towards World War II. Nevertheless Yoshisuke Aikawa and his relatives managed to keep the Nissan pyramid under their full control all the way through to the end of World War II. Judging from his survey on budgeting practices of many Japanese firms in the 1930s Hasegawa (1938) concludes that Nissan as a holding company uses the budgeting process of its more than 30 surveyed subsidiaries in various industries in a centralized totalitarian way.

³⁴ During his lifetime Sakichi Toyoda made 119 inventions, of which 13 were awarded U.S. and other foreign patents.

³⁵ As of 1930, Figure 3 lists Toyoda Boshokuki (Toyoda Textile Machines) and another Toyoda company as controlled by Toyo Menka Trading Firm, which was owned by Mitsui Bussan.

³⁶ Kiichiro Toyoda, Sakichi's son with his first wife, spent most of his life on developing automobiles, but got along poorly with Risaburo and died without taking charge of Toyota Motors.

Although Matsushita did business with the Jugo Bank, Sumitomo opened a branch near his factory in 1925, and approached him about doing business. Matsushita asked Sumitomo for a ¥20,000 line of credit, an unusual arrangement at the time, and Sumitomo agreed. Although Matsushita never used the line of credit, when Jugo Bank failed in a depression shortly thereafter, Sumitomo honored the agreement and extended credit. Matsushita accordingly began a long term relationship with the Sumitomo Bank in 1927. Matsushita was never listed as a Sumitomo company, since the group has as its own electronics firm, NEC. However, its close relationship with the Sumitomo Bank continued for decades. Matsushita expanded, building its own pyramidal group, and was numbered among the great *zaibatsu* by the Allied Forces charged with rebuilding Japan's postwar economy.

Since the end of World War II the Sumitomo Bank has been the largest bank equity holder of Matsushita's outstanding shares and the main bank for Matsushita. At the end of World War II Matsushita was not formally owned by Sumitomo family. Yet being a large industrial group on its own, the Matsushita group was designated as a *Zaibatsu* family by the Allied Forces in June 1946 and Konosuke Matsushita and all other top executives with ranks above managing directors were purged from all public offices in November 1946. Konosuke Matsushita was respected universally by the Matsushita employees, and the purge as a result generated significant amounts of concern and sympathy among Matsushita's labor unions. The union leaders collected 15,000 petitions from their members and families and brought them to the General Head Quarters of the Allied Forces and the Japanese Government. Because of this unusual support from the labor unions and elsewhere, Konosuke Matsushita's and other Matsushita executives' purge was downgraded from the original unconditional purge to a purge conditional on investigation in January 1947 and then was dropped entirely in May 1947. Matsushita companies were able to resume operation.

Table 5 shows *zaibatsu* firms owning about thirty-five percent of corporate assets in 1946, with the remainder held by independent firms. Many independent firms, like Toyota and Matsushita, were actually bound, more or less tightly, to an established *zaibatsu*. Many that would become important decades later, were not key players in the prewar corporate sector. But *Zaibatsu* firms' dominance of key industries like natural resources, chemicals, manufacturing, and trade, and of the associated distribution channels, had become overwhelming by the start of World War II. Thus, despite their number and collective economic importance, independent firms were unquestionably less politically influential during this period.

4. Ownership Changes during the Depressions

In the 1920s and early 1930s, Japan endured a series of depressions, culminating in the Great Depression. The Great Kanto Earthquake of 1923 so disrupted the economy that the Roaring Twenties were essentially mute in Japan. Several major *zaibatsu* collapsed. Studying which *zaibatsu* failed and which survived is highly instructive.

Key factors explaining survival appear to be the existence of a bank in the *zaibatsu*, its position in the pyramid, and its role in the business dealings of the group. The Mitsubishi, Mitsui, and Sumitomo *zaibatsu* all had banks very near the apexes of their pyramids. Consequently, their banks' health was a primary concern of the controlling families. Moreover, any tunneling that occurred would tend to increase the assets and income of these banks.

The Mitsubishi, Mitsui, and Sumitomo banks also had well-diversified loan portfolios, with only ten to twenty percent of outstanding loans to other firms in their own *zaibatsu*.³⁷ Moreover, these banks held equity in many firms spanning many industries. Indeed, the reticence of the Mitsubishi Bank to lend to related companies during the depressions forced many, though not the mining and shipbuilding concerns, to issue public shares. The average stake of the Mitsubishi apex partnership in its first tier subsidiaries fell from 83.5% in 1921 to 69.0% in 1928.

³⁷ Such diversification is clearly sound banking practice to reduce risk. This may have been the banks' deliberate objective, but this is not entirely clear.

Other *zaibatsu* families used their banks primarily to raise money for their *zaibatsu* firms. These so-called *organ banks* were thus poorly diversified. For example, 94% of the Nakazawa Bank's loans were to insiders, as were 75% of the Watanabe Bank's loans. Likewise, 75% of the loans held by the Matsukata *zaibatsu*'s Jugo Bank were to Matsukata firms. Prior to their collapses in 1927, 72% of the loans of the Suzuki's captive bank, the Taiwan Bank, were to Suzuki companies.

The Rise and Fall of the Suzuki *Zaibatsu*

The Suzuki, like many other Tokugawa era mercantile families, participated actively in Japan's foreign trade after the Restoration. Even though they began as specialists in silk, copper, clothing, or sugar, they eventually required a general trading firm, or *sogo shosha*, to transact barter business domestically and to handle transactions with foreigners. A *sogo shosha* was a general entity that could deal with all types of profit opportunities in both domestic and foreign markets. The first and largest was Mitsui Bussan, which served as a model for many others.³⁸

One imitator was Suzuki Shoten, the Suzuki Merchant Company. The Suzukis began as sugar traders, and organized a *sogo shosha* to handle miscellaneous transactions related to that business. Suzuki Shoten quickly grew to become the second largest *sogo shosha*. Suzuki's rapid expansion took place in two stages.

The first was during Japan's intensive drive to develop its new colony in Taiwan, acquired during the Sino-Japanese War of 1894 to 1895. Taiwan's climate was ideal for sugar cane, and the Suzuki were the logical point men to handle Japanese investment in that industry. To transport sugar to Japan, Suzuki needed ships, so it expanded into shipping and shipbuilding. At this point, the apex firm of the *zaibatsu* remained a single proprietorship run by the family patriarch, soon one of Japan's richest merchants.

The second stage occurred in the period immediately after World War I. During a sustained boom from 1914 to 1919, Japan's GNP grew fivefold, and the Suzuki *zaibatsu* expanded aggressively, proliferating new firms into many industries. In 1903, the apex firm became a general partnership capitalized at ¥500,000. By 1920, this had increased one hundredfold to ¥50 million yen. Already in 1915, the Suzuki's annual business in foreign trade reached ¥1.54 billion, exceeding that of Mitsui Bussan. By the end of the boom, the Suzuki group looked comparable in many ways to the Mitsui and Mitsubishi *zaibatsu*.

One of Suzuki's critical successes occurred in November 1914, three months after the beginning of the First World War I. Although Japan was mired in a deep recession at the time, Naokichi Kaneko (1868-1944), the manager of Suzuki Shoten, and Seiichi Takahata, the company's London branch manager, concluded that German U-boats would cause ship and commodity prices to rise sharply. Kaneko ordered Takahata to buy everything available, including raw materials aboard any transport ship. Suzuki's purchases of ships, iron, steel, sugar, wheat and other commodities and materials wrought an immediate profit of over ¥100 million yen. This move, more than anything else, made Suzuki a global player in trade.

Takahata was skilful in dealing with Great Britain and the other allied countries, procuring for them raw materials, iron and steel products, food supply, ships, and the like. With 50,000 tons of ships sunk on an average day, Britain suffered a severe shortage of transport capacity, and was directly in the business of buying ships. At one point, the British government advanced Suzuki an unprecedented £500,000 deposit towards the purchase of ships. Suzuki was flooded with buy orders for food from the British and allied governments. Takahata responded, for example, by selling them entire cargoes of beans, grain and other food items from Hokkaido together with the ships themselves.

These developments caused Suzuki to enter a long-term relationship with the Taiwan Bank. Suzuki's foreign trade transactions were now so enormous that Japan's only government-authorized foreign exchange bank, Yokohama Shokin Bank,³⁹ was incapable of handling them all, forcing Suzuki to

³⁸ Others were organized by the Mitsubishi, Masuda, Abe, Mogi, Takada, Iwai, Ataka and Yuasa.

³⁹ Yokohama Shokin Bank became the Bank of Tokyo after WWII, which more recently merged with the Mitsubishi Bank to form the Bank of Tokyo-Mitsubishi.

rely on more expensive merchant bankers.⁴⁰ The Japanese government had granted the Taiwan Bank special privileges to deal with foreign exchange, and Takahata seized upon this to solve Suzuki's foreign exchange bottlenecks. The Taiwan Bank welcomed Suzuki's overtures because its extensive nonperforming loans in China had discouraged other *zaibatsu* companies from doing business with it.

A brief but severe recession followed the November 1918 armistice, and several small *zaibatsu*, including Mogi, Kuhara, Masuda, and Abe, failed. Suzuki survived, and when another boom began in September 1919, Takahata foresaw another boom. The pace of Suzuki's global expansion was unprecedented. Suzuki gleaned huge profits in everything from Java sugar to wheat and soybeans from Siberia, Manchuria and Qingdao. In one transaction, Suzuki shipped 360,000 tons of wheat from Manchuria to Great Britain using 10,000 boxcars of the Manchurian Railway and forty-five 8,000 to 10,000 ton freighters. In 1919 and 1920, Takahata sold fifty shiploads of Java sugar and earned 65M guilders on the 1920 transactions alone.

In 1923, Kaneko restructured the Suzuki pyramid, floating the trade division of Suzuki Shoten as the Suzuki Stock Company, or Kabushiki Suzuki, capitalized at ¥80 million and with a paid-in capital of ¥50 million. Suzuki Shoten's remaining operations were reorganized into a holding company, Suzuki General Partnership or Suzuki Gomei, capitalized at ¥50 million. Suzuki General Partnership became the new apex firm, controlling seventy-eight listed firms. Of these, ten were in food industries, twenty four in chemicals, four in textiles, two in tobacco, five in mining, five in iron and steel, three in electric machinery, three in electric power, three in railways, two in shipping, two in fishing, two in real estate and warehousing, three in development, two in the banking and trust business, and four in insurance, three in commerce.

The sixty-five of these that were recognized as integral parts of the Suzuki *zaibatsu* had a capitalization of ¥560 million. The apex firm employed 3,000 people and the pyramid firms had 25,000 employees in total. Figure 8 diagrams the Suzuki pyramid at its greatest extent.

[Figure 8 about here]

Kaneko apparently created some of these manufacturing companies out of a sense of nationalism. He shared with many Japanese managers of the era a belief that import substitution would free Japan of its ignominious dependence on foreigners.

The 1923 restructuring caused the Suzuki *zaibatsu* to take on a structure superficially resembling those of the other large *zaibatsu*. A holding company stood at the apex, major Suzuki powerhouse companies filled the first tier of subsidiaries, their spin-offs filled the second tier, and various acquired companies filled out the lower tiers. Many of these companies continued on with their original names.

[Figure 9 about here]

However, two key differences figured in Suzuki's demise.

First, while Suzuki Shoten's trading division was separate from the apex holding company, there was no corresponding separation in personnel. In fact, Figure 9 shows that numerous Suzuki family members and managers held cross-appointments in Suzuki companies. And though the Suzuki family held control rights, a hired manager, Kaneko, was actually making all the management decisions. Suzuki's rapid expansion of its business activities was not accompanied by a corresponding expansion of its management personnel.

Second, the Suzuki companies were financed differently. Suzuki firms borrowed much more than other *zaibatsu* firms, both to finance expansion and to finance day-to-day business dealings. This debt generally took the form of loans from the Taiwan Bank, the Suzuki group's *de facto* group bank. This seems to have reflected Kaneko's desire to maintain undisputed control throughout the pyramid. Equity financing risked empowering outside shareholders, and even invited takeovers, jeopardizing Kaneko's

⁴⁰ The only other Japanese trading firm which had enough foreign business to warrant using merchant bankers was Mitsui Bussan.

absolute control. Debt from sources other than the Taiwan Bank risked interference from outside creditors. This aversion led to a rapid build-up of Suzuki companies' debts to the Taiwan Bank, shown in Table 8, and a similarly rapidly increasing exposure of the Taiwan bank to the Suzuki companies' fortunes.

Soon, the bulk of the Taiwan Bank's loan portfolio was tied up in other Suzuki companies. However, the integration of the Taiwan Bank into the Suzuki group was *via* a "long-term relationship." Kaneko only controlled the Taiwan Bank because of its financial dependence on business with Suzuki companies. And Suzuki's financial position was weakened in the early 1920s because of a costly failed effort to merge two large flour companies, Nisshin and Nihon Flour Companies. Finally, most of Suzuki General Partnership's capital was tied up in Kabushiki Suzuki, the trading company.

The collapse of the Suzuki *zaibatsu* was spectacular.⁴¹

The September 1919 boom that Kaneko gambled on turned out to be short lived. The Japanese economy stumbled in 1920, and again in 1922, and then collapsed with the Great Kanto Earthquake depression of 1924, and the Showa finance depression of 1927. The latter two kept Japan's economy from realizing the growth that seemed likely in 1919 and exposed the weakness of the Suzuki *zaibatsu* and other similar pyramids.

The Great Kanto earthquake of September 1st, 1923 was one of the worst in world history. It destroyed Tokyo, Yokohama and the surrounding area, killing 140,000 people either directly, in the ensuing fires, or in mob violence against Koreans in the quake's aftermath. Business offices and records were destroyed, and much of Japan's most modern infrastructure was ruined.

But another effect of the earthquake was purely financial – the Showa depression. The earthquake seriously damaged numerous businesses, many of which had issued bills prior to the quake that they were now unable to pay. This, in turn, created cash flow problems for the banks holding those bills. The government therefore developed a program under which the Bank of Japan would re-discount bills listing the disaster area as place of payment or listing a merchant with offices in the disaster area as the debtor. These *earthquake bills*, or *tegata*, provided a two-year grace period for collection, subsequently twice extended, adding two more years of grace. The government promised compensation to the Bank of Japan for any losses due to the program. At the end of 1926, more than ¥200 million in unsettled earthquake bills remained, of which ¥160 million had been re-discounted by the Bank of Japan.⁴²

Suzuki companies used more debt financing than Mitsui, Sumitomo, or Mitsubishi firms. The Suzuki group' total debt at the end of 1926 was ¥500 million, of which ¥379 million was owed to the Taiwan Bank. Kaneko had accumulated this amount of debt through adept financial maneuvers involving mixing and counterbalancing credit created by the Taiwan Bank, Suzuki firms, other firms, and the Bank of Japan. Thus, a disproportionate fraction of these unpaid earthquake bills were for debts owed by Suzuki companies, and the Suzuki *zaibatsu*'s bank, the Taiwan Bank, accounted for fully 58%.⁴³

When the Japanese Diet debated how to absorb these unpaid promissory notes, Suzuki hired lobbyists to sway votes. The campaign backfired, and Suzuki's financial problems were exposed. Suzuki companies found themselves unable to float debt. The final law the Diet passed on March 23rd, 1927 was accompanied by the resolution to provide a complete rescue package for Taiwan Bank. On March 24th, the Taiwan Bank announced that it was severing its ties with the Suzuki group entirely. The sudden abandonment of Suzuki companies by the Taiwan Bank forced them to default on payments due the Mitsui Bank and other banks. Angered by the Taiwan Bank's move, the other banks called in their Taiwan Bank loans, putting the Taiwan Bank (once again) on the verge of bankruptcy.

Suzuki collapsed on April 2nd in 1927. On April 13th, the Bank of Japan, despite the above resolution, refused to mount a second rescue of the Taiwan Bank. Cha (2001) argues that a determination by the central bank to end the gold embargo figured large in this decision, but the politics of the situation

⁴¹ The collapse of Suzuki *zaibatsu* compares in scale with the collapses of Ivar Kreuger's STAB in Sweden in 1932 and that of the Stinnes concerns in Germany in the 1920s.

⁴² See, for example, Ito (2001) for the role of the Bank of Japan in the depression periods in the 1920s and 1930s.

⁴³ Both Taiwan and Korea Banks were given special status by the Japanese government.

surely also played a role. The Upper House of Parliament voted down a special provision to rescue Taiwan Bank, arguing that the measure was unconstitutional, and the Japanese cabinet fell on April 17th. The Taiwan Bank closed temporarily on April 18th. This resulted in an immediate nationwide financial panic.

The Disposition of the Remains

Although the Suzuki group went out of business because of its inability to pay its promissory notes, it never actually went into bankruptcy. Suzuki moved all its business to another company, Nissho, reorganized as a stock company in 1928.⁴⁴ The original Suzuki company undertook all repayment and restructuring activities, and was dissolved in 1933 after repaying all of its debts. During this six-year restructuring, no creditors' meeting took place and the Japanese courts never declared Suzuki bankrupt. In their investigations, Suzuki's creditors found no book fudging whatsoever, and accepted that the collapse was an honest financial and management failure. They unanimously agreed to settle all remaining accounts privately. In this process no overseas clients of Suzuki's were adversely affected either.

Because the failure was purely financial and managerial, the Suzuki pyramid still contained viable firms with significant assets. These, realizing Kaneko's worst nightmares, fell to the other major *zaibatsu* as Suzuki debts were settled. The primary buyers were Mitsui and Mitsubishi, which accumulated all of Suzuki's most promising business units plus the Taiwan Bank. This consolidation significantly raised concentration ratios in certain industries. For example, 84% of Taiwan's sugar production was now under the control of three *zaibatsu*: Mitsui, Mitsubishi and Fujiyama. Intangible assets, notably the many exclusive distribution rights Suzuki owned, were transferred to Mitsui Bussan (Mitsui and Co.) and Mitsubishi Shoji (Mitsubishi Corp.), the general trading firms of those groups.

Suzuki had been willing to take risks. The established *zaibatsu* groups, such as Mitsui, Mitsubishi and Sumitomo, had been much more cautious. After acquiring Suzuki's chemical companies - including plants, patents, engineers and scientists - Mitsui established a major ammonia production facility. Mitsui clearly used research conducted by the former Suzuki companies, whereas Mitsui itself would never have paid for such research - at least without large government subsidies. Thus, although Suzuki ultimately failed, it still probably made a major contribution to Japan's subsequent development.⁴⁵

Post Mortem

Kaneko (1928) himself reflected on the collapse of the Suzuki *zaibatsu* and summarized the reasons for its collapse. In Kaneko's opinion, a highly centralized management system imposed on widely disparate firms prevented proper monitoring, and was the most important reason for Suzuki's ruin. Second, Kaneko reflects that Suzuki companies had too much debt capital requiring too high interest payments given the recessionary environment, noting that the "high cost of debt capital subsequently killed us."

The two reasons Kaneko lists correspond precisely to the differences noted above between the Suzuki pyramid and the *zaibatsu* that survived, such as Mitsui, Sumitomo, and Mitsubishi. Suzuki's organizational weakness, as pointed out by Kaneko himself, was its overly centralized management. Suzuki's financial weakness stemmed from its extensive use of debt financing from a single bank. Kaneko, quoted by Nissho (1968), explains that: "[t]he profits earned by Suzuki Shoten's hard work should be monopolized by the Suzuki family. I would rather borrow money from banks than pay profits out as dividends." The two reasons were not unrelated, for this statement is often interpreted to mean that Kaneko wanted to maintain Suzuki family control in order to preserve his own control. This left Taiwan

⁴⁴ Nissho Company continued as a general trading firm, and merged with Iwai Trading Company in 1968 to form the present Nissho Iwai Corporation. Their web-site (<http://www.nisshoiwai.co.jp/ni/e/index2.html>) presents their corporate history involving the Suzuki Shoten.

⁴⁵ After the collapse of Suzuki, Kaneko set up a holding company, Taiyo Soda, in 1931, with which he began another business career. He died in Borneo in 1944, while engaged in aluminum processing. Takahata was at his deathbed. Kaneko, with help from Nissho developed Taiyo Soda (renamed as Taiyo Sangyo in 1939) into a holding firm controlling twenty five companies, including Kobe Steel Works.

Bank's loan portfolio highly concentrated in Suzuki companies – and essentially an organ bank for the group. In contrast, by 1912 most Mitsui companies were already able to grow on retained earnings and equity issues. The Mitsui Bank was not needed as an organ bank, and lent extensively to companies outside the Mitsui group. Table 9 shows quite stable relationships between deposits and loan balances for the six largest *zaibatsu* banks for the early 1930s.

[Table 9 about here]

A third reason, which Kaneko does not mention, for Suzuki's collapse is that he expanded the Suzuki group too fast and in the wrong directions. He certainly failed to foresee the chronic weakness of the Japanese economy through the 1920s. Had the 1920s economy in Japan resembled that in the US, Suzuki might well have prospered. However, in retrospect, the more risk-averse strategies of the Mitsui, Mitsubishi and Sumitomo groups proved superior. Moreover, Suzuki missed some of the most profitable new industries of the 1920s, such as electrical machinery. The Suzuki group was vulnerable to a downturn because, unlike Mitsui, Mitsubishi, and Sumitomo, it lacked a reliably highly profitable mining operation to serve as a cash cow for the entire groups during downturns. It is also sometimes argued that the lack of mining in its industrial portfolio prevented Suzuki from entering electrical machinery, which provided an additional financial cushion for the Mitsui, Mitsubishi and Sumitomo *zaibatsu*.

A fourth reason, which Kaneko also fails to note, is that he was quite ham-fisted at lobbying. An interesting aspect of Kaneko's personality was that he apparently had no interest in personal wealth. He did not benefit personally in any way from his business dealings. He likewise could not comprehend that politicians might value money, and refused to make any payments to bureaucrats or politicians. During the Meiji period, rent-seeking investments seem to have been important aspects of the business strategies of the other *zaibatsu*, and probably played some role in Mitsui and Mitsubishi taking over state mining operations. Tousuke Fukuzawa (1868-1938), a successful entrepreneur and well-known industrialist responsible for much of the development of Japan's electric power industry in the early decades of the 20th century, argues that this was the biggest reason for Suzuki's collapse, and that Japan should thank Kaneko deeply for not contributing to political corruption.⁴⁶ A less laudatory interpretation is that Kaneko relished power rather than wealth, and failed to understand that others viewed life differently. In any event, Kaneko's lack of pre-existing political connections certainly hurt him, and his last minute attempts to manipulate the Diet backfired badly.

The Culling of the *Zaibatsu* and Their Banks

Although the fall of the Suzuki *zaibatsu* was the most spectacular, it was not an isolated event. The 1920s depressions felled many other pyramidal groups. The Nakazawa, Watanabe, and Matsusaka *zaibatsu* also collapsed about the same time as the Suzuki *zaibatsu*.

Like Suzuki, these families preserved control by using loans from their group banks to finance group companies. Thus, like the Taiwan Bank, the Nakazawa, Watanabe, and Matsusaka banks were organ banks of their *zaibatsu* - heavily dependent on interest payments from their respective group companies. When key non-financial companies in each of these *zaibatsu* encountered financial difficulty, the group bank failed and the rest of the *zaibatsu* then collapsed.

Moreover, these organ banks were located deep in their pyramids. Consequently, tunneling would have concentrated losses and debts in the banks, with income and assets rising toward the apex firms. In contrast, the banks of the Mitsui, Sumitomo, and Mitsubishi *zaibatsu* were near the apexes of those pyramids. Consequently, tunneling would have concentrated income and assets in the banks, with losses and debts sinking toward the lower tier firms.

Noting this pattern, Kato (1957) proposes the so-called *organ bank hypothesis*. This hypothesis holds that certain banks were excessively tightly connected their *zaibatsu* industrial companies, made

⁴⁶ Fukuzawa (1930) regards Kaneko more highly than Iwasaki, Mitsubishi *zaibatsu*'s founder.

easy loans to those companies, failed, and caused the Showa financial crisis in 1927. Okazaki and Yokoyama (2001) present empirical evidence supporting this hypothesis.

Since the stability of a country's banking system has positive externalities, there may be a public policy lesson here. Countries whose major banks are parts of pyramidal groups should encourage the positioning of banks near the apexes of those groups.

5. The Centrally Planned Economy under the Military Government

As the economy staggered, an anti-westernization backlash grew. In part, this was a result of Japan's successful adoption of many Western ideas. Japanese, now educated and middle class, chafed at Western arrogance when the Americans and British rejected Japan's proposal for a Racial Equality Clause in the League of Nations Covenant. A revival of conservative and nationalistic feelings renewed interest in *bushido*.

Japan had taken Taiwan from China in 1895, gained a foothold in Manchuria by defeating Russia in 1905, annexed Korea in 1910, and installed the Emperor of China in a puppet government in Manchuria in 1931. These victories amid economic stagnation elevated the prestige of the military and weakened that of the political and business elite.

Emboldened, the military slowly seized power by assassinating civilian politicians. Navy and army officers soon held most important public offices, including that of prime minister. Japan attacked China in 1937, and by 1942 had conquered Hong Kong, Indochina, Singapore, Indonesia and Burma, proclaiming a *Greater East Asian Co-prosperity Sphere*.

To support the war effort and further consolidate its power, the military government enacted laws that stripped shareholders of their corporate governance powers. Japan was soon a rigidly centrally planned economy. Although *zaibatsu* families retained titular ownership of control blocks, they had little say in management and dividends were restricted so that earnings could be reinvested patriotically. The military government denigrated the families' objections as unpatriotic shareholder fixation on current dividends. Thus, by 1945, Japan had an economy little different from that of Russia in the 1920s.⁴⁷

The Military Build-Up

By the mid 1930s, Japan was recovering from its prolonged bout of depressions. In part, this was because the yen depreciated sharply after Japan left the gold standard, triggering a surge in textile exports.⁴⁸ This depreciation also gave domestic heavy industry and chemical industry firms an advantage over imports, allowing them to expand.

In part, the recovery also probably stemmed from Finance Minister Korekiyo Takahashi's adoption of Keynesian policies at the end of 1931, when the government issued deficit covering bonds underwritten by the Bank of Japan that were then sold to city banks. The government spent the proceeds on public works and military industries, which further increased demand for heavy and chemical industry products.

And in part, the recovery was due to the Manchurian Incident of September 1931, when a bomb ripped through a Japanese-built railway near Mukden (Shenyang). The Japanese Kwantung army, or Kantogun, which planted the bomb while guarding the railway, used the incident as a pretext to occupy Southern Manchuria despite the government's direct order to withdraw. The situation required a military build-up that elevated demand for chemicals and heavy industry products.

[Table 10 about here]

⁴⁷ See Okazaki (1994) for details. Wartime Japan was, of course, not a communist country. However, the economic structure imposed by its extreme right military government was surprisingly similar to that of a communist state.

⁴⁸ Japan abandoned the gold standard in September 1917, along with many other countries. After World War I, many other countries promptly returned to the gold standard, but Japan delayed doing so until January 1930. It then abandoned the gold standard again in December 1931. For details, see Ogura (2002).

Rising military spending seemed increasingly linked to economic prosperity in the minds of business leaders, politicians, and ordinary Japanese.

When the Second Sino-Japanese War broke out in 1937, the Japanese government mobilized the economy, emphasizing military-related industries and shifting production away from light industries, like textiles. Table 10 illustrates. This rapid change in Japan's industrial structure, in turn, had a major impact on the corporate sector.

The older *zaibatsu* - Mitsui, Sumitomo, and Mitsubishi - expanded aggressively into heavy industries and chemicals from the early 1930s on, financing this with equity issues. Table 11 shows that these became their most profitable operations in the 1940s, accounting for about thirty percent of the fifty most profitable firms. Thus, while the number of established *zaibatsu* firms in the top fifty did not change greatly, their industrial composition did.

[Tables 11, 12, and 13 about here]

Until the early 1930s the first-tier subsidiaries in the *zaibatsu* pyramids, except Mitsubishi, were almost wholly owned by members of the *zaibatsu* family and the apex firms collectively, as shown in Table 12. In the 1930s, however, the *zaibatsu* listed these first-tier subsidiaries. This was because the families saw immense profit opportunities in rapidly growing military-related industries if they moved quickly, as illustrated in Table 13. Superfluous stakes in control chains throughout the established pyramids were sold to the public to raise capital for expansion. Thus, the stakes of *zaibatsu* companies in their subsidiaries declined significantly between 1929 and 1943.

[Table 14 about here]

Table 11 shows that the newer *zaibatsu* were also present in these profitable sectors, with eight of their affiliates among the most profitable firms of 1943. Most notably, Japan Industries represents Nissan, Japan Nitrogenous Fertilizer represents Nichitsu, Nippon Soda represents Nisso, Mori Industrial Enterprises represents Mori, and the Physical and Chemical Research Institute represents Riken. Recall that many of these newer *zaibatsu* groups were developed by single entrepreneur chemists or engineers.

The number of independents among the most profitable firms fell from 29 to 14, perhaps in part because of the state's increased control over the *zaibatsu*. Table 15 reveals the decreasing controlling family stakes in independent enterprises, as these firms issued ever more equity to finance expansion. By 1943, family holding company stakes were less than the stakes of state controlled banks, like the Industrial Bank of Japan, which were now the most significant shareholders in many independent firms.⁴⁹

[Table 15 about here]

Marching to Serfdom

The military assumed dictatorial powers over the economy in stages. Thus the latter part of the 1930s is called the *creeping war economy*.

⁴⁹ The Industrial Bank of Japan was created in 1900 under the Industrial Bank of Japan Act, which provided ¥10 million in government money as initial capital and granted it the privilege of issuing IBJ long-term debentures to raise further funds. The IBJ began operating as an investment bank in 1902. A 1918 revision of the IBJ Act let it underwrite securities. The IBJ Act was nullified in 1950 and the IBJ became an ordinary bank. Also in 1950, the government passed the Bank Debentures Issuance Act, which let ordinary banks issue long-term bonds to raise capital. In 1952, after the Allied occupation ended, the Japanese government abolished the BDI Act and passed the new Long-term Credit Bank Act. This designated long-term credit banks and granted them the privilege of issuing long-term bonds to finance corporate investment. The IBJ, along with the Long Term Credit Bank, the Japan Credit Bank, and the Bank of Tokyo became long-term credit banks. For further details, see e.g. Patrick (1967) and Tamaki (1995). We are grateful to Richard Sylla for pointing this out.

This development was possible because the weak economy convinced many in Japan, as elsewhere, that democracy and free market capitalism had failed. Indeed this view was widespread among business leaders themselves. In response to the Suzuki failure, the government organized the Council on Commerce and Industry in 1927. The Council recommended a thorough cartelization of the economy to allow “cooperation” and government educational measures to induce “patriotic economic behavior” by consumers.

The Ottawa Imperial Conference erected tariffs around the British Commonwealth, shutting Japan out of her best markets, and the ensuing breakdown of trade allowed the Council’s recommendations to move forward. The 1931 Important Industries Law sanctioned cartels run by ‘control committees’ of officials, and executives would designate crucial industries in which cartels should regulate production and prices. Cartels could be formed in any industry where at least half of the firms requested it. If two thirds of the firms requested cartelization, the remaining firms could be forced into the cartel. The minister could rescind cartel actions only with the approval of the ‘control committee’.⁵⁰ The control committees, of course, would end up staffed by military personnel.

The mood of the times is well captured by Takahashi (1930), who blames shortsighted shareholders who care only for high dividends and neglect the long term future of the firm. He declares that

“The primary manifestations of ‘the degeneration of firm management’ were the short-sighted attitude towards business management and the inability of management to aim at so-called ‘business prosperity for 100 years’ ... [D]egeneration of company management was largely caused by the ‘high handed and short sighted selfishness of large stockholders’ and the corruption of the board of directors.”⁵¹

He also asserts that corrupt inept directors preoccupied with big bonuses and stock manipulation govern Japan’s large companies and that

“It is uncommon to find members of the board of directors who acquired their status and position by virtue of their management ability. A large number of directors get their position on the board only because of being large stockholders of the firm or having special relations in government circles.”⁵²

Takahashi thus blames Japan’s economic malaise on corrupt, inept, and entrenched directors placed in charge of large companies by dint of family history or political rent-seeking. The military largely accepted these views, and concluded not only that it should take over the task of corporate governance, but that there would be broad public support for this. They were correct.

Thus followed a creeping nationalization of the banking system and the *zaibatsu*. Ironically, Okazaki (1994) argues that *zaibatsu* firms were actually the better performers because their dominant shareholders were more likely to entrust governance to professional managers. Thus, they ought to have been less vulnerable to such attacks. This was not the case.

The attack was three-pronged. First, the banking sector was placed under state control. Second, the *zaibatsu* families were isolated and their control rights had to be negated. Third, a full-fledged central planning system was erected. It is still a matter of debate whether this strategy was planned from the beginning, or whether the military government simply acted as opportunities presented themselves.

State control encompassed the banking sector in two ways. First, the government proposed to stabilize the sector by implementing a one-local-bank-per-prefecture policy.⁵³ Still traumatized by the

⁵⁰ See Fletcher (1989) for details.

⁵¹ As quoted by Okazaki (1994), pp. 4 and 5.

⁵² As quoted by Okazaki (1994), p. 233.

⁵³ The Bank Law of 1927 let the government restructure the banking industry, and the number of banks fell sharply. This law, which was not substantially revised until 1981, gave the government considerable flexibility in regulating bank competition. For example, the Ministry of Finance used it to announce its one-bank-per prefecture policy in 1933, giving these banks a degree of monopoly power according to Horiuchi (1999). The policy was implemented

recent depressions, the bankers gratefully accepted this largesse. This objective was achieved by the end of World War II, reducing the number of banks from 1,402 in 1926 to 377 in 1937 to only 61 in 1945. While this policy did stabilize the banking sector, it also erected an insurmountable barrier to entry. Bank financing was now in the hands of a relatively small cadre of people, whom the military government could either control or replace.

At the same time the Japanese government increased the amount of funds supplied by the state-owned long-term credit banks, such as the Industrial Bank of Japan. This made the state a major creditor to many industrial companies. State banks also increasingly took equity positions, explaining the observation in Table 11 that these organizations had become the most significant shareholders in many independent companies. Thus, when the cabinet decided in November 1938 to regulate loans, the number of banks to be controlled was small and their dependence on state power was evident to all bankers. By then, most senior economic planners under the military government were Soviet trained.

The military government pried corporate control away from the *zaibatsu* families in two steps. Again, it is not clear that this was fully premeditated, though it might have been.

The first step was the conversion of the apex holding companies from limited partnerships into joint stock companies. This was done through inheritance and dividend income tax reforms in 1937 and 1938 that made partnerships unviable. Dividend income was subjected to double taxation – once as corporate income of the partnership and again as personal dividend income of the family. The latter was at an especially high rate.⁵⁴ However, if the holding company was a joint stock company, rather than a partnership, double taxation could be avoided.⁵⁵ By 1940, the holding companies at the apexes of all Japan's *major* *zaibatsu* had been transformed from partnerships into joint stock companies.

At this point, Nissan was favored over other *zaibatsu* groups such as Mitsui, Mitsubishi and Sumitomo by the military government because its apex firm, unlike those of the other major *zaibatsu*, was not family controlled.⁵⁶ This favored status led to a drastic change in the organization of the Nissan *zaibatsu* when Nissan was renamed the Manchurian Heavy Industry Company, and recapitalized as a 50-50 joint venture with the Japanese and Manchurian governments. Manchurian Heavy Industry Company was granted a monopoly on all development projects in Manchuria.

The government also acquired controlling interests in a variety of previously independent firms. However, *zaibatsu* firms remained under the control of their family shareholders.

The military government's second step was to cut off the income of the *zaibatsu* families. The same November 1938 cabinet decision that regulated loans also placed dividends under state control. This was justified as a patriotic measure to build up Japan's industries by raising retained earnings. Since the apex companies of the *zaibatsu* were now joint stock companies, the *zaibatsu* families were entirely dependent on dividends for their income. This was apparently now sharply curtailed. Thus, Asajima (1984), noting that the Sumitomo group expanded dramatically from 1937 to 1945 using retained earnings, remarks that "if all the income from dividends is channeled into paid-up capital, the question arises as to what the Sumitomo family relied on for income. This is also unclear at present."⁵⁷

fully in the 1940s, but temporarily relaxed in the early 1950s when the Ministry of Finance allowed twelve new small banks. The policy was subsequently tightened again.

⁵⁴ The partnership was subject to an income tax of between eighteen and twenty-eight percent, depending on the location of business, plus a capital tax. The same income was then subject to a personal income tax with a top marginal rate of sixty-five percent.

⁵⁵ For details, see Morikawa (1992), p.213. Corporate income tax was only introduced in Japan in a 1940 reform, which also increased tax burdens across the board. See Shiomi (1957) for general information on these changes. Miyamoto (1984) describes the previous tax regime in detail.

⁵⁶ Reischauer (1988, p.305) writes that "[b]y the 1920s and 1920s there was wide spread condemnation of the *zaibatsu*, particularly by the supporters of the military, as elements of Western decadence in Japanese society, corrupters of the parliamentary system, and money grubbing betrayers of Japan's imperial destiny." The lives of many *zaibatsu* leaders were threatened. For example, Ikuma Dan (1858-1932), a former civil servant and chairman of Mitsui Gomei (Mitsui Partnership), was assassinated by young naval officers in front of the Mitsui Bank in Tokyo in 1932.

⁵⁷ Asajima (1984), p. 110.

On September 13, 1940 the State Planning Ministry, the Kikakuin, announced its new Outline of the Establishment of a New Economic System, under which firms were ‘set free from the control of shareholders’ and subjected to a system of quantitative production orders. Thus, the Kikakuin set up full-fledged central planning system, in which it assumed the role of Gosplan.⁵⁸ Under this system, the Kikakuin issued production orders to Industry Control Boards, or Toseikai, which in turn issued orders to individual firms. The cabinet explicitly commissioned the Kikakuin to investigate and imitate Soviet best practice. In all of this restructuring, firms were seen as consisting of workers and manager/bureaucrats. There was no mention of shareholders, for they were by now effectively irrelevant.

The Kikakuin also took control of the banking system, directing banks to transfer capital to firms in accordance with the central plan.⁵⁹ The Mitsubishi apex company began issuing bonds to obtain the needed funds, while the Mitsubishi Bank and Mitsubishi Trust Co. – deviating from their prior practice – began large scale lending to other Mitsubishi companies.

The planners who set quantitative targets for output also controlled the prices of goods and services throughout the economy. By early 1945 (the war ended in August 1945), the state was setting about ten thousand prices.

By 1942, the economy was in a state of crisis because many firms failed to meet production quotas. Okazaki (1994) writes that the officials at the Kikakuin now realized that firms were still thinking about production in terms of making profits, and were not willing to ‘bear sacrifices’ despite the removal of stockholder influence.

The government responded in two ways. First, the February 1943 Outline of Emergency Measures for Price Controls organized a system whereby the government would raise producer prices through subsidized spending. Thus, market forces were allowed back into the system, though in a very restricted way. Second, the Munitions Corporation Law of 1943 required each company to have one ‘responsible person’ to be ‘accountable’ for the company achieving its production quota. All workers had an unconditional duty to obey all orders of the responsible person. Thus, tougher corporate governance standards were established.

When the US Occupation Force entered Japan in 1945, they thus entered a country that, though a former right-wing dictatorship, was nonetheless virtually as centrally planned as many Eastern European countries were in 1989. While economic historians sometimes write that the *zaibatsu* were dismantled and the banking system was reorganized under the US Occupation, this is perhaps an overstatement. The *zaibatsu* families had already lost control, and the banking system was already changed beyond recognition from its prewar structure. The issue of whether or not to destroy the prewar system was moot. The real question was to rebuild it as it had been or as something different.

6. MacArthur Brings Anglo-American Capitalism to Japan

General Douglas MacArthur, the Supreme Commander, Allied Powers (SCAP) and Military Governor of Japan under the US Occupation from 1945 to 1952, apparently shared his predecessors’ suspicion of powerful business families. Certainly, *zaibatsu* companies increased their market power during the war and played important roles in providing military equipment and supplies to the Imperial Army.⁶⁰ However, the *zaibatsu* families’ involvement in these activities remains unclear. Although no fan of socialism himself, MacArthur let a cadre of New Dealers introduce SCAP economic policies aimed at dismantling the *zaibatsu*.⁶¹ Prominent among these efforts were the reorganization of the banking industry and the restructuring of former *zaibatsu* member firms as freestanding widely held firms of the

⁵⁸ Gosplan (Госплан) was the command and control section of the Soviet government. Okazaki (1994) states that Kikakuin was explicitly modeled on Gosplan and staffed by Soviet-trained personnel.

⁵⁹ See Horiuchi (1999) for details.

⁶⁰ See Yafeh (2000).

⁶¹ Dower (2000) describes MacArthur’s orchestration of anti-communist purges, his vast anti-red censorship system, and his distinctly rightwing approach to dealing with unions.

sort that had recently replaced pyramidal groups under the new Deal in the United States.⁶² Hostile takeovers and greenmail ensued under Japan's brief, but action-packed, adventure in Anglo-American corporate governance.

The Agenda of the Supreme Commander, Allied Powers

Following World War II, the U.S. occupation oversaw a full scale revamping of Japan's corporate and financial systems along the lines of the U.S. systems. This revamping, while immensely complicated, has two key elements that relate to the topic at hand. Both were copies of reforms enacted in the United States under Roosevelt's New Deal.

First, banks could no longer underwrite securities, as in the United States under the Glass Steagall Act of 1933, a key plank of the New Deal. Although the U.S. government exerted considerable pressure for a complete ban on bank ownership of non-financial firms' stock, along the lines of U.S. practice, the Allied Forces ultimately decided against this. Banks' share ownership in other companies was limited five percent stakes. This effectively prevented banks from being situated near the apex of a pyramid. Nevertheless, banks remained equity blockholders in their clients and other firms.⁶³

Second, MacArthur permanently broke up large pyramidal groups, as Roosevelt did in the United States via the New Deal. Despite the military's usurpation of corporate governance power, the *zaibatsu* families' shareholdings remained on the books. In 1950, MacArthur ordered their shares confiscated, all intercorporate blockholdings unwound, and the senior executives of *zaibatsu* firms purged.

[Table 16 about here]

The primary reasons the SCAP used to justify the breakup of the *zaibatsu* was their alleged market power. Thus, the Department of State and the War Department jointly report in 1946 that "The almost complete *zaibatsu* control of banks and financial institutions prevented independent businesses from getting needed financing; *zaibatsu*-controlled distribution systems could cut off the supply of raw materials and supplies needed by independent businesses entirely; similarly, selling independent business's finished products outside strictly local markets required the cooperation of the *zaibatsu* trading houses, which largely controlled Japan's distribution systems; and *zaibatsu* firms were able to cripple small firms by pirating their key employees and skilled workmen. These practices, and the independents' respect for not violating *zaibatsu*'s territories, prevented meaningful competition from existing in Japanese markets."⁶⁴

The SCAP seemed intent on removing barriers to entry for political as well as economic reasons. The revamping it supervised was clearly intended to democratize the economy and encourage a new cadre of entrepreneurs. Hadley (1970, p.19) writes that

"[t]he aim of the Allied economic deconcentration program was to give all Japanese businessmen the opportunity to engage in the modern sector of the economy, that is, to remove those conditions which preserved this sector for chosen few, those conditions which in fact made it a private collectivism."

⁶² The New Deal broke up pyramidal groups in the United States by subjecting intercorporate dividends to taxes and by proscribing intercorporate ownership in public utilities. See Becht and DeLong (2004, this volume) and Morck and Yeung (2004) for details.

⁶³ This let banks become major players in the post-war horizontal *keiretsu*, a unique Japanese form of industrial organization that emerged after the United States withdrawal.

⁶⁴ Report on the *Mission on Japanese Combines, Part I, a report to the U.S. Department of State and the U.S. War Department*, Washington, D.C., 1946, p.14.

Whether *zaibatsu* would have exercised an unhealthy degree of market power in a free-market postwar economy is an academic question, for their market shares had grown substantially in the 1930s and 1940s under the controlled economy. Historically, Japan always had some sectors in which competition was keen and entry open. However, especially after the demise of the Suzuki *zaibatsu*, the remaining large pyramidal groups came to hold substantial market shares in many key industries, as shown in Table 5. Moreover, the central planners of the military government had little interest in entrants, and preferred directing the affairs of large companies. Dealing with many companies instead of a few simply made the transmission of orders more complicated.

The Incomplete Process of *Zaibatsu* Dissolution

To implement MacArthur's order to "dissolve large industrial and banking combines," the Japanese government established the Holding Company Liquidation Commission (HCLC). The HCLC designated ten combines and 83 holding companies for dissolution. The *zaibatsu* core families and their relatives were ordered to surrender their shares in exchange for ten-year nonnegotiable government bonds.⁶⁵ Thus, no property was formally confiscated without compensation. Indeed, the old shareholders initially appeared generously compensated for their property. However, the subsequent inflation made the government bonds almost valueless.

The hired-managers of *zaibatsu* companies, many of whom were competent, were purged by the SCAP. This probably created a shortage of able managers that persisted at least through the early 1950s. More extensive purges in *zaibatsu* than in other firms might explain Yafeh's (1995) finding of poorer accounting performance by former *zaibatsu* firms in 1953. This could also explain depressed values for these same firms, as reported by Miyajima (1994, Table 10). After the occupation ended in 1952, many purged managers returned in various capacities.

In contrast to the purgings of corporate executives, Noguchi (1998) reports that Japanese bureaucrats were, to a large extent, untouched. While 21,000 managers were purged from other sectors of Japanese society, only 2,000 bureaucrats, mostly from the Ministry of the Interior, were chucked. Most notably, only nine bureaucrats of the Ministry of Finance were purged. This was important, for the Ministry of Finance worked to alter or circumvent SCAP orders regarding many policy matters, often aggressively. Indeed, Hadley (1970, p.15) mentions the deep puzzlement the United States personnel involved in this policy felt at the support business groups, individuals, and Japanese government officials provided for this interference. Overall, the implemented *zaibatsu* dissolution policies left considerable wiggle-room for the Japanese government to permit business interests to organize new business groups along the lines of former *zaibatsu* groups.

For example, we noted above that several alternative definitions of *zaibatsu* were advanced by Japanese and foreign students of the Japanese economy. This ambiguity also affected the non-Japanese personnel supervising the postwar revamping of the economy, and may have been in part responsible for the less than complete implementation of the originally intended dissolution plan. Thus, the HCLC decided not to disassemble the small group built around Japan Nitrogenous Fertilizer Company, the Nippon Chisso Hiryo *zaibatsu*, because its founder died in 1944 and it was therefore not really a *zaibatsu*.⁶⁶

The SCAP used market share as the primary determinant of whether a *zaibatsu* was in need of dissolution. This had several odd effects. For example, the banking sector, in which no single bank held a clearly dominant market share, was left relatively untouched throughout the occupation; save that banks had to disgorge their shares in non-financial companies in excess of ten percent stakes. Many pyramidal structures in non-financial sectors also remained in place, and were carried over to the postwar era in the formation of *vertical keiretsu*, also called *capital keiretsu*.

⁶⁵ Tamaki (1976, p.453) records that the HCLC redistributed about 166 million shares, nominally worth ¥7.6 billion in paid-in-capital, from these holding companies and fifty six *zaibatsu* family individuals. The firms designated for dissolution constituted about 42% of the paid in capital of the corporate sector, or about ¥18.4 billion yen.

⁶⁶ Hadley (1970), p 21.

Confronted with a deepening Cold War and the rising influence of the Soviet Union in the Pacific, policymakers in Washington deemphasized MacArthur's restructuring plans, and sought to reconstruct Japan as rapidly as possible to defend the region jointly with the United States.⁶⁷ The HCLC was thus left to its own interpretation of its orders.

The Subsequent Stock Market Collapse

The SCAP closed Japan's stock exchanges in September 1945, and reopened them on May 16, 1949. Table 16 shows the *de jure* shareholdings of the Mitsui, Mitsubishi, Sumitomo and Yasuda *zaibatsu* in 1945. The SCAP transferred these shares, and most other intercorporate blockholdings, to employees and other assigned investors. Employees and other select groups could buy these shares at very low prices, and in many cases the shares were virtually or actually given away.⁶⁸ This greatly diluted the equity of many of the companies involved and sharply reduced their share prices. Because the larger *zaibatsu* contained the most extensive cross holdings, instances where subsidiaries also hold stock in their parent companies or in which subsidiaries hold stock in each other, the impact of this dilution was especially severe in those firms.

[Figure 10 about here]

Figure 10 explains the dilution effect, and assumes for simplicity that the intercorporate equity blocks were simply given to employees or other favored investors. The upper panel shows a cross holding arrangement, common within pyramids. The family controlled Firm A owns one million shares in its subsidiary, Firm B, but B in turn owns one million shares in the parent Firm A. Each lists their shares in the other as assets and their dividends from the other as income, so each has assets and income twice what would be the case were they freestanding firms. Since each has ¥200 million in assets and two million shares outstanding, both firms shares are worth ¥100.

The lower panel shows what happens after dissolution of the sort implemented in Japan by the HCLC. The shares previously held by the *zaibatsu* family and the cross holdings are appropriated by the HCLC and sold to other shareholders⁶⁹. The funds so raised are kept by the government. None of the proceeds go to either Firm A or Firm B. Thus, the only assets in both are now their physical assets, and their only incomes are now their operating incomes. Yet the number of shares outstanding has not declined proportionately. Consequently, share prices of both firms fall by fifty percent.

Cross-holdings of this sort were commonplace. For example, 64% and 59% of the outstanding shares of the apex companies of the Mitsui and Mitsubishi *zaibatsu*, respectively, were owned by Mitsui and Mitsubishi affiliates. The holding companies of both the Sumitomo and Yasuda *zaibatsu* were actually entirely owned by their respective *zaibatsu* affiliates. Thus, stock prices plunged as the dissolution was announced and as the value of the bonds issued as compensation dropped.

⁶⁷ This policy shift actually became evident when Ridgeway succeeded MacArthur in mid 1950, well before the end of the occupation of Japan in April 1952.

⁶⁸ Tamaki (1976, p.454) records that the HCLC sold about 23% of holding companies' and *zaibatsu* families' former shares to employees. The rest were sold through a variety of general, special, and regional auctions, via underwriters or to trust accounts. Employees could each buy up to ¥30,000 of shares at deeply reduced prices, and each manager could buy up to one percent. Employees and executives typically cashed out when the stock markets reopened in 1949. For example, Mitsui Bussan, prior to its dissolution, had 7,050 employees. Many of these workers, who lost their jobs after the dissolution, used the cash so raised to set up new companies to take over their former employers' business. SCAP prohibited any new company from employing more than one hundred workers, not including executives, who formerly worked for either Mitsui Bussan or Mitsubishi Corporation; and prohibited any new company from involving in any way more than one person who was a manager of any rank, consultant or executive of either Mitsui Bussan or Mitsubishi Corporation. Former employees of Mitsui Bussan are thought to have set up as many as 220 small companies to take over former Mitsui Bussan business while satisfying the legal requirement. The corresponding figure for the Mitsubishi Corporation was 140.

⁶⁹ See footnote 69.

Share prices in the immediate postwar period were depressed for other reasons as well. Because of the extensive damage the war had inflicted on the physical assets of industrial firms. To begin rebuilding, firms began issuing new shares, adding these to the former *zaibatsu* control block shares flooding the market. The SCAP ordered the government to suspend the promised payments to munitions suppliers to prevent these firms from profiting off their wartime activities. The Corporation Reconstruction and Reorganization Act of 1946 allowed firms bankrupted by the non-payment of wartime indemnities to resume operations as ‘special account companies’, and also allowed firms’ net losses due to official non-payment to be written off.⁷⁰ Average paid-in capital-to-total assets ratios fell to ten percent by 1950.⁷¹ Finally, Yafeh (2004) argues that the population of potential investors was impoverished and probably highly risk averse. They consequently rapidly sold the shares the SCAP assigned them to finance consumption and low-risk savings.

[Table 17 about here]

Table 17 shows the numbers of new shares issued, as well as the shares brought to the stock market by the HCLC for sale. The shares HCLC brought to the market amounted to 30% of the newly issued shares in 1948, 17% in 1949, 5.6% in 1950 and 0.3% in 1951.

It is clear that the shares freed by the *zaibatsu* dissolution order were large and had a major impact on the overall stock market. Although non-*zaibatsu* firms suffered smaller stock price declines because their shares were not diluted, their stocks nonetheless fell as the total amount of equity available to the public rose. Thus, new shares issued by firms like Toshiba and Hitachi fetched low prices.

Several economic measures were introduced in 1949 to stabilize the Japanese economy. These included fixing the exchange rate and suspending new loans from the Reconstruction Financing Bank. The latter policy reduced the supply of funds available to Japanese industry, increased interest rates, and induced even more firms to issue equity. This, on top of the other factors listed above, triggered a collapse of the Japanese stock market. Table 18 shows the drop in stock prices from 1949 to 1950. These stock price fluctuations are also evident in the price to capital stock ratios and market to book ratios, shown in Table 19.

[Tables 18 and 19 about here]

Over the next few years, firms shied away from further diluting their equity by issuing shares at the prices prevailing. During the period 1950-1954, new issues accounted for less than 20% of Japanese industrial firms’ external financing. Short term bank debt was now becoming the main source of corporate financing.

By the end of the occupation, Japan was an Anglo-Saxon economy, in that its major firms were widely held. The number of shareholders rose from 1.7 million in 1945 to 4.2 million in 1950. The *zaibatsu* dissolution by SCAP massively redistributed the stocks of Japanese corporations.⁷² The shares transferred from the *zaibatsu* families to the public by the HCLC amounted to over 40% of all corporate assets in Japan. The consequence was a widely diffused ownership across much of the Japanese corporate sector, with individual shareholders holding 70% of the outstanding shares of typical Japanese corporations in 1949 and 1950.⁷³

The New legal Framework for Shareholders

The SCAP also supervised the enactment of new laws that would shape Japan’s future business activities.

⁷⁰ Hoshi (1995).

⁷¹ Ministry of Finance (1983).

⁷² Some authors have found some analogy between this historical event and more contemporary privatization of government-owned corporations. See e.g. Yafeh (1995).

⁷³ Bisson (1954).

The Anti-Monopoly Law of 1947 was actually also an anti-pyramid law. It prohibited the establishment of holding companies, 25% or more of whose asset base consists of the stock of other firms; manufacturing firms' owning the stock of other firms; and financial institutions' owning more than 5% of other firms. Subsequently, this law was frequently amended in response to corporate lobbying.

An amendment in 1949 allowed manufacturing firms to own other firms, permitting the formation of vertical (capital) *keiretsu*, in which large manufacturers partly own other manufacturers. A 1953 amendment increased the limit of banks' ownership of industrial firms from the original 5% to 10%. This 10% limit was reduced to 5% again in 1987. For most practical purposes these limits had never been a barrier for Japanese banks intent upon exercising corporate governance power over their client firms, particularly those under financial distress. Banks often voted additional shares through controlled financial subsidiaries, like insurance and trust companies.

The Securities Trading Act of 1948 was designed to protect small shareholders. An auditor system was also established in 1948, followed by a set of corporate accounting principles in 1950. In 1951, new depreciation rules ended firms' freedom to determine their own depreciation rates and methods. These initiatives were significant, for prewar Japan had no serious shareholder rights, accounting standards, auditing procedure rules, public disclosure rules, or depreciation rules.⁷⁴

The Japanese Commercial Code was also revised in 1950 to give small shareholders rights to access company books and records and to establish a fiduciary duties of directors to shareholders. However, the government defined a small shareholder as one with at least 5% equity ownership. In subsequent years, Japanese banks intervening in their client firms' management often used this rule.

The Keiretsu Defense

An active market for corporate control developed quickly. Hostile takeover bids became high profile events, and several were launched against former zaibatsu firms - including Taisho Marine and Mitsui Real Estate.⁷⁵ As in the United States and Britain, the possibility of a hostile takeover appears to have a governance impact greatly out of proportion to the actual frequency of these events.⁷⁶ In response to this threat, the managers of firms from each former *zaibatsu* began to act as a group – coordinating white knight and white squire defensive arrangements to protect their former affiliated companies from hostile takeovers.

In the white knight defense, the target of a hostile bid arranges to be taken over instead by a friendly company that safeguards the positions of the target's top executives. In the white squire defense, the target arranges for a friendly company to purchase temporarily a large enough block of target stock to prevent the hostile takeover from succeeding.

These coordinated actions were possible because top managers constructed postwar analogs to the Family Councils that coordinated *zaibatsu* affairs prior to the war. Thus, former Mitsubishi firms' presidents began having regular Friday luncheon meetings in June 1946, immediately after the Mitsubishi Family Council was formally abolished. The Sumitomo group began their Presidents' Council in 1949, and the presidents of the former Mitsui companies formed their Presidents' Club around 1950. Subsequently, these regular meetings of the presidents of former zaibatsu companies all came to be called *Presidents' Clubs*.

Hideki Yokoi was one of the most well-known corporate raiders in postwar Japan. Yokoi became wealthy from dealings with MacArthur's General Headquarters (GHQ) and, allegedly, in the black market created by prewar price controls. With a huge cash hoard, Yokoi launched takeovers of company after company.

⁷⁴ See Miyajima (2000).

⁷⁵ For details of some notable Japanese takeovers and takeover defenses at this time, see Sheard (1991) and Miyajima (1994).

⁷⁶ See Morck *et al.* (1988, 1988b, 1989) regarding hostile takeovers in the United States and Franks *et al.* (2004, this volume) regarding the United Kingdom.

In 1953 he purchased more than 40% of the outstanding shares of the Shirokiya, a department store company.⁷⁷ Yokoi then organized a general stockholders' meeting, at which he won control of the board. Shirokiya sued Yokoi, and four days later Yokoi lost control of the company. Yokoi had to ask Keita Goto, then the CEO of Tokyu, for mediation. Yokoi (1960) reflected on the benefit of his takeover to Shirokiya, noting that

“I sacrificed myself to do the best for Shirokiya which now is in such great shape; without my takeover and the following business intervention by Keita Goto of the Tokyu group, Shirokiya would have been unable to increase its capacity and would have either become a third-rate department store or an office building, closing its 300-year history.”

Yokoi continued launching corporate takeovers over the following two decades. After Shirokiya, he mounted raids on Toa Oil, Daikyo Oil, Imperial Hotels, Tokai Shipping Line, Toyo Sugar, Shibaura Sugar, Taito Sugar, Dainippon Sugar, and many other companies. He died in 1998 at the age of 85.

A pivotal event in the development of the Anglo-American system in Japan was the raid by Kyujiro Fujinami against Youwa Properties. By 1952 Fujinami, by then a well-known corporate raider, had purchased 250,000 of the 720,000 outstanding shares of Youwa Properties, a company that had managed landholdings and other properties for the Mitsubishi group. Fujinami, a former security guard at the Tokyo Stock Exchange, demanded seats on the board of Youwa. The Mitsubishi Bank, together with the companies run by other members of the Mitsubishi Presidents' Council offered to pay greenmail and buy back all the shares Fujinami had acquired at a price of ¥1600 per share, well above the previous market price of ¥240. This coordinated action was necessary because Japanese law prohibited firms from repurchasing their own stock. Youwa thus could not pay its own greenmail. Mitsubishi group firms each bought a small block of shares from Fujinami to avoid contravening the Anti-Monopoly Law of 1947.⁷⁸

This event is thought to have triggered the realization by top executives that corporate raids could be blocked by establishing sufficiently large crossholdings among former *zaibatsu* firms. If each former Mitsubishi *zaibatsu* firm owned a little stock in every other former Mitsubishi *zaibatsu* firm, the members of the Mitsubishi Presidents Club could collectively vote control blocks in every former Mitsubishi firm. These firms would then all be safe from hostile takeovers, the need to pay greenmail would disappear, and the company presidents would have secure tenure in their jobs.

This *keiretsu defense* is a variant of the white knight or white squire defense. In the *keiretsu* defense, a cadre of friendly companies each take a small position in the target such that these positions, taken together, add up to a control block sufficient to deter a hostile takeover. Evidence from the United States suggests that modest white squire positions can deter raiders. Morck *et al.* (1988) argue that management affiliated blocks as small as five percent can deflect raids because they give insiders a head start in any race to accumulate shares. La Porta *et al.* (1999) show that intercorporate stakes of ten percent confer control rights in *zaibatsu*-like pyramidal groups in many countries. Yafeh (2004) summarizes data on such intercorporate holdings in postwar Japan, and shows them to be in this range or higher.

7. Self-assembling *Keiretsu*

Japan's postwar *keiretsu* formed in two waves. In both, defensives against corporate takeovers appear to have been the primary motive.⁷⁹ The first wave, discussed above, took place in the 1950s, and involved the self-organization of *keiretsu* comprising the former member firms of the old Mitsui, Mitsubishi, and

⁷⁷ Its major property is now a part of the Tokyu department store in Nihonbashi.

⁷⁸ Subsequently, in 1953 Mitsubishi Estates, Mitsubishi's main land development company, absorbed both Youwa and another Mitsubishi realtor, Kantou Properties.

⁷⁹ Yafeh (1995, 2000, 2004) argues more generally that poor performance caused firms to reconfigure their ownership structure. Since takeovers and the *keiretsu* takeover defence are both instances of ownership structure reconfiguration and Morck *et al.* (1988, 1988b, 1989) argue that poor performance invites hostile takeovers, this argument is not inconsistent with ours.

Sumitomo *zaibatsu*. The second wave, in the 1960s, saw the self-organization of three new horizontal *keiretsu*. The Fuji Bank helped organize the Fuyo *keiretsu* by orchestrating a network of intercorporate share placements. Simultaneously, the Sanwa Bank helped construct the Sanwa *keiretsu* and the Daiichi Kangyo Bank (DKB) helped assemble the Dai Ichi Bank *keiretsu*. In both cases, the banks' apparently sought to insulate the managers of its client firms from hostile takeovers.

Each *keiretsu* firm has a 'main securities firm' or *kanji gaisha*, with which it has a long term relationship. These *kanji gaisha* usually hold crossholdings equity certificates in their vaults. Thus, one firm cannot sell its crossholdings in another without notifying the *kanji gaisha*, which then notifies the other firm. Hence there is a credible promise to be a 'stable shareholder'.⁸⁰

Recent work by Miwa and Ramseyer (2002) contests much of the praise for Japan's *keiretsu* by students of corporate strategy, such as Porter (1990). While we concur that much laudatory discussion of the "Japanese Model" in the 1980s is problematic, we do not agree with the contention of Miwa and Ramseyer that *keiretsu* are fables.⁸¹ Morck and Nakamura (1999) document a clear pattern of repeated bailouts of weak *keiretsu* firms, but not of otherwise similarly troubled independent firms. *Keiretsu* firms - and especially *keiretsu* main banks - were remarkably successful at shaping Japanese institutions to their advantage. *Keiretsu* are a genuinely important feature of postwar Japan, but their role is primarily to entrench top corporate management and to safeguard a monotonous stability in Japan's list of leading corporations.⁸²

Modern Japanese *keiretsu* divide into two genres - horizontal *keiretsu* and vertical *keiretsu*.

Horizontal Keiretsu

As noted above, takeover defense arrangements led to groups, wherein member firms were controlled collectively by all the other firms in the group through a multitude of small equity stakes. These groups, called horizontal *keiretsu*, recreated for their member firms' top managers the freedom from outside shareholder pressure the *zaibatsu* had provided. Moreover, since no family holding company exercised control, horizontal *keiretsu* also freed top managers from oversight by a controlling shareholder. Thus, member firms of the *keiretsu* of postwar Japan were similar to the widely held firms described by Beale and Means (1932), for their top managers were accountable only to themselves.

But horizontal *keiretsu* took the Beale and Means firm a step further. Because a majority of their companies' stock was in the hands of white squires, or stable investors, the managers of *keiretsu* member firms had no need to fear corporate raiders, proxy contests at shareholder meetings, or institutional investor pressure. They were free to run their firms as they saw fit, without regard for share value, profits, or dividends. *Keiretsu* top managers were thus more insulated from shareholder pressure that was possible in even the most widely held firm.

[Figure 11 about here]

Figure 11 illustrates a stylized horizontal *keiretsu*. The intercorporate stakes involved are all individually quite small, so that each firm looks superficially as if it were widely held. However, only a minority of the stock in each of the companies is left available to public shareholders, and thus to potential raiders.

As rules against pyramids were relaxed after the United States withdrawal, core *keiretsu* member firms began establishing new pyramids, with themselves at the apex. Thus, horizontal *keiretsu* in contemporary Japan are best thought of as clusters of core firms, each of which controls its own pyramid of publicly traded subsidiaries in a substructure akin to a prewar widely held *zaibatsu*. It is only the core firms that collectively control a majority of each other's shares through a dense network of individually tiny intercorporate equity blocks.

⁸⁰ See Sheard (1994).

⁸¹ Note also that Gerlach (1992), Lincoln *et al.* (1992, 1996), and other quantitative sociologists typically find that *keiretsu* connections are important in unconditional multivariate data analysis.

⁸² See He *et al.* (2004).

Vertical Keiretsu

A second genre of *keiretsu*, called vertical *keiretsu*, exhibits a more classically pyramidal structure. Some are simply industrial *zaibatsu* that escaped dissolution. These include Shibaura Manufacturing Works (now Toshiba) and Hitachi, Ltd. Shibaura was a second tier member of the Mitsui *zaibatsu* and the most important prewar electric appliances manufacturer. In 1939, it spun off twelve supplier firms and acquired control blocks in eight other companies with which it had close customer-supplier relationships. Toshiba executives also served as directors of these companies.⁸³ Hitachi was part of the Nissan *zaibatsu*. By 1937 it had set up its own vertically integrated group with nine supplier companies within the Nissan group.⁸⁴ Many of these *Toshiba and Hitachi* suppliers still exist and are now members of their respective vertical *keiretsu*.

However, the ranks of vertical *keiretsu* also contain new groups. These arose after the war in certain manufacturing industries, like automobiles and electric appliances, where product assembly was divisible into discrete steps, each to be carried out by a separate firm. Again, white squire takeover defenses were probably key to their original formation.

Vertical *keiretsu* are more pyramidal horizontal *keiretsu*. An apex firm holds control blocks in a first tier of key suppliers. Each holds control blocks in its suppliers, which hold control blocks in yet another tier of suppliers, and so on.

Despite their similarity to prewar industrial *zaibatsu*, some differences justify a new term. Unlike industrial *zaibatsu*, vertical *keiretsu* also feature dense fogs of small intercorporate equity stakes of any number of member firms in each other, much as in horizontal *keiretsu*. For example, Toyota Motors owns controlling blocks in the range of fifteen to thirty percent in each of its main parts suppliers. Nonetheless, only a minority of the stock in these suppliers is available to public investors, for holdings by other members of the Toyota *keiretsu* raise the total stakes of stable shareholders above fifty percent in each case. The Toyoda family has substantial control over Toyota Motors itself.⁸⁵ Some of these suppliers are spin-offs from Toyota Motors or from other older *keiretsu* member firm. Others are independent firms that find it advantageous to cement their alliances to Toyota by selling a control block to Toyota, or a Toyota firm, and so joining the Toyota *keiretsu*.

Another important difference is that the apex firm in an industrial *zaibatsu* clearly directed activities in all the member firms of the pyramid. In contrast, vertical *keiretsu* firms are alleged only to coordinate decision-making with the firms directly above and directly below them in the pyramid. This decentralized planning is said to be possible because the integration in vertical *keiretsu* is much tighter, with no superfluous firms that are not direct parts of the production chain leading to the final products of the apex firm. Industrial *zaibatsu*, in contrast, often contained firms whose activities were disjoint from their main production chains, and even firms in entirely unrelated industries.

Other Firms

Some prewar local *zaibatsu* survive in various forms, having escaped the notice of the SCAP and the HCLC. Some are even controlled by their prewar controlling families. One example is the Ito group of Nagoya, which continues to run Matsuzakaya department stores. Others are the Katakura group of Nagano, whose Katakura Industries remains important in textiles; the Yasukawa group of Fukuoka, whose Yasuoka Electric remains a major electric appliance maker; and the Mogi group, based in Chiba prefecture, which controls Kikkoman, the soy sauce maker, and other firms.⁸⁶

Finally, just as some firms in prewar Japan were not parts of *zaibatsu*, some firms in postwar Japan belong to no *keiretsu*. Some of these independents have prewar roots. For example, Masatoshi Ito built a small family clothing business founded in 1920 into Ito Yokado, the largest retail chain in Japan and owner of Seven-Eleven. Other essentially independent firms are entirely postwar phenomena. Prominent examples include Honda and Sony.

⁸³ Tamaki (1976, p.154-155) describes Toshiba's relationships with these firms in more detail.

⁸⁴ See Tamaki (1976), p. 399.

⁸⁵ As discussed above, Toyota Motors was itself spun off from Toyota Jido Shokki, a loom maker.

⁸⁶ See e.g. Fruin (1983).

Firms in the President Clubs of the six former *zaibatsu* based *keiretsu* – Mitsui, Mitsubishi, Sumitomo, Fuyo (formerly Yasuda), Sanwa, and Daiichi-Kangyo – employed only 4% of the total workforce of all non-financial listed firms in 1986-1990, but owned in 1990 15% of their total assets (14% in 1986) and 17% of their total paid-in capital (14% in 1986). Also, in 1990, they owned 26% of the outstanding shares of all listed firms (24% in 1986), provided 37% of corporate debt of all listed firms (39% in 1986) and provided 45% of the directors of the boards of all listed firms throughout the period 1986-1990.⁸⁷

Independent Japanese firms are either private or narrowly held, usually with a founding family as the dominant shareholder. At present, Japan has no large widely held firms in the Anglo-American sense.

More Definitional Ambiguities

Like the term *zaibatsu*, the word *keiretsu* is deeply flavored with the characteristic Japanese taste for ambiguity. Deciding which, if any, *keiretsu* a firm belongs to is usually straightforward. However, there are cases where things become somewhat convoluted. For example, in addition to having its own vertical *keiretsu*, Toyota also belongs to the Mitsui *keiretsu*. Toyota's president attends meetings of the Mitsui Presidents Club, and Toyota considers the Mitsui Bank its main bank, even though Toyota has no bank debt. Toyota participates in Mitsui-wide activities with other Mitsui firms, like Toshiba.

If one stretches the definition of a *keiretsu* somewhat, even independent firms like Sony and Honda have group ties. Thus, Sony is sometimes listed as a member of a “quasi-Mitsui group”, as in Okumura (1976, p.183), because of its ties and historical dealings with the Mitsui bank. The primary reason Sony is not explicitly a member of the Mitsui President Club seems to be that Toshiba is already a member, and each horizontal *keiretsu* contains only one company from each industry. This may be a holdover from the SCAP's concerns about high market shares. Likewise, Honda has extensive financial ties to the Tokyo-Mitsubishi Bank, but does not belong to Mitsubishi's President Club. Again, since Mitsubishi Motors belongs to the Mitsubishi President Club, there may be no room for Honda. Nevertheless Honda is sometimes listed as a member of a “quasi-Mitsubishi” group, as in Okumura (1976, p.171).

By the end of the 1960s, the widely held firm had disappeared from the Japanese economic landscape. Japan's brief acquaintance with Anglo-American corporate governance was over and its current patterns of corporate ownership were essentially in place.

The Former *Zaibatsu* Banks

Banks were exempt from the SCAP's *zaibatsu* dissolution program because it deemed their market shares all acceptably low. However, the former *zaibatsu* families lost ownership of their *zaibatsu* banks - Teikoku Bank (a merger of the former Mitsui and Daiichi Banks), Mitsubishi Bank, Sumitomo Bank and Yasuda Bank.

The SCAP continued using the banks much as the military government had – assigning specific banks to “rubber stamp” loans to selected strategically important firms. Thus, firms' ‘main banks’ in the 1950s tended to be their ‘assigned banks’ from the 1940s. Banks also won influence restructuring firms damaged by wartime losses.⁸⁸ The shareholding culture of prewar Japan faded from collective memory, and banks assumed a leading role in the economy.⁸⁹

The continuity of this role, and banks' ties to state planners, give rise to the so-called ‘1940s theory’. This theory, due to Okazaki and Okuno (1993) and Noguchi (1998), proposes that the current managed market economy originated in wartime Japan.⁹⁰

Regardless, the SCAP's attitude towards long-term financial institutions was generally negative, and banks were proscribed from issuing bonds. In response to a perceived capital shortage in 1952, the

⁸⁷ Toyo Keizai (1991).

⁸⁸ See Hoshi *et al.* (2001) on the postwar continuation of the wartime system and on the banks roles in postwar restructuring.

⁸⁹ See Hoshi and Kashyap (2001).

⁹⁰ See Hamada (1998) for a critique of this view.

year of the US withdrawal, the government passed the Long Term Credit Law, which permitted a new type of bank, the *long-term credit bank*, that could issue bonds, but not take deposits. Other banks, thenceforth known as *ordinary banks*, could take deposits, but not issue bonds.⁹¹ Three major new long-term credit banks formed: the Industrial Bank of Japan, the Japan Long-Term Credit Bank and the Nippon Credit Bank.⁹²

Most extant banks, including all the former *zaibatsu* banks, chose to be ordinary banks. This was because they had large established deposit and short-term lending businesses that generated significant profits before the war, and looked set to do so again. By remaining ordinary banks, they could tap Japan's high household savings rate and lend to large corporations on a year-to-year basis. Despite their formal short-term structure, these loans were often really long-term, in that they were rolled over indefinitely.

The former *zaibatsu* banks retained, and still retain, most of their prewar business relationships with their fellow former *zaibatsu* member firms, and are now referred to as the main banks of these client firms. These networks of relationships were critical in the formation of the *keiretsu* in the 1950s and 1960s, for the former *zaibatsu* banks often organized the white squire equity placements that constitute the *keiretsu*.

This regulatory fragmentation of the Japanese banking system meant that main banks sometimes had inadequate capital to accommodate their largest clients borrowing needs. In response, the Bank of Japan permitted syndicated loans.

Under the syndicated bank loan system, a large borrower's main bank took charge of organizing a syndicate of banks that could collectively meet the borrower's financing needs. The main bank apparently was expected to take a lead role in monitoring the borrower, to take charge of correcting any impending problems, and to take a disproportionately large hit in the event of a default.⁹³ This pattern continues in recent cases of defaulting firms, where the main bank becomes the "special manager" of a firm under reorganization.

Banks were thought to collect substantial private information about each other and about Japanese firms in general *via* syndicated lending, and to utilize this information to promulgate good corporate governance. However, Morck and Nakamura (1999), while documenting increased banker representation on the boards of troubled client firms, find no evidence consistent with corporate governance improvement. They argue that banks use their influence on boards primarily to maximize the value of their loan portfolios, and that this can deviate substantially from firm value maximization and economic efficiency.

Japan's large banks also greatly affected the postwar development of the financial system. Bank lobbying is widely believed to underlie the Japanese government's ongoing and virtually complete suppression of the corporate debt market, which continued until the 1990s. Corporate debt issues were forbidden unless fully backed by real property or explicitly approved by the government. Thus, what corporate bonds existed were little more than alienable mortgages. Debentures and other corporate debt securities were outlawed entirely.

The reason the banks took this route is fairly clear. They saw bonds as competition both for their depositors' money and their client firm's loans. Why the government accommodated their lobbying is less clear. The SCAP had promoted the stock market, but largely ignored the corporate bond market. This may have reflected a lack of investor interest, for bondholders were badly hurt by the high postwar inflation. Also, the military government had used the banking system to carry out centrally planned capital allocation, so corporate bonds played little role in the wartime economy. Managers were not used

⁹¹ At present, this structure of the Japanese banking system is the subject of considerable debate. There has already been a degree of reform and further reforms would appear likely.

⁹² The Industrial Bank of Japan, which practiced investment banking since 1900 under the Industrial Bank of Japan Act, became an ordinary bank in 1950 when the IBJ Act was repealed. The IBJ resumed its special status as an investment bank in 1952 when the new long-term credit bank act was created. For details, see footnote 40.

⁹³ In contrast, Japanese banks did not usually get involved with rescue operations of distressed client firms prior to the early 1950s. Failing firms were simply liquidated. See Miyajima (1999).

to issuing debt. Still, the continued interdiction of corporate debt issues decades later raises puzzling political economy issues.

It is hard to escape the conclusion that government and the banks worked to preserve market power for the country's major banks. Market power certainly derived from the barriers to competition the prewar and wartime regulators had erected. Banks probably also held an informational advantage giving them a degree of market power over their clients, as in Rajan (1992). Whatever the precise nature of this market power, it corresponds to a period of great stability for the Japanese banking system. From the end of the war to 1997, no major bank failed and there were few bank mergers. While the strong regulatory hand of the Ministry of Finance may be partially responsible, such stability is certainly also consistent with prolonged bank market power.

Indeed, the two explanations are often intertwined in discussions of postwar Japanese banking. Thus, Hanazaki and Horiuchi (2003) write that

“the primary purpose of the MOF’s administrative guidance was to suppress full-scale competition in each of the compartmentalized financial businesses. ...The government was able to utilize the rents accumulated in the banking sector as a means of dealing with banks in financial distress. Specifically, regulators relied on the cooperation of private banks in implementing the blanket guarantee, and major banks faithfully bore a disproportionate share of the costs involved. ... “[B]y manipulating regulatory measures the MOF could do favors to those banks that towed the line and penalize those that failed to heed its guidance.”

They argue that the Mitsubishi Bank, for example, got permission to pursue trust banking as a reward for rescuing Nippon Trust. Moreover, the view that banks concentrated the financial value of *keiretsu* within themselves through such practices is consistent with the finding of Caves and Uekusa (1976) that group membership does not benefit industrial firms, and that any benefits must therefore be captured by non-industrial firms – that is banks.

Aoki (1994) argues that rents are necessary to motivate proper monitoring by banks. Hellman, Murdock and Stiglitz (2000) argue that restricted competition is beneficial in that it reduces banks’ incentives to maximize shareholder value by taking excessive risks in near default situation. In contrast, Allen and Gale (2000) argue that competition is necessary to reveal which managers know what they’re doing. Hanazaki and Horiuchi (2000, 2001) argue that such competition is responsible for the success of independent Japanese manufacturing firms and that its absence explains the weakness of *keiretsu* firms and the failure of its banks.

They argue that the international success of Japan’s best firms undid this market power. By the 1980s, the country’s most successful multinationals routinely issued debt abroad through their foreign subsidiaries. In response, the government relaxed the rules (somewhat) in the 1990s to allow firms whose financial ratios exceeded predetermined criteria to issue certain debt securities.⁹⁴ This partial deregulation may have let Japan’s best firms to abandon bank loans and concentrated low quality debt in the banking system.⁹⁵ This argument, while probably true, does not explain the alacrity with which the more profitable firms abandoned bank loans as a source of capital. That the banks were extracting market power rents in the provision of capital would explain this rush for the exits.

8. Learning from History

Japan’s tumultuous corporate history provides some insights into the value of corporate groups under different economic circumstances. Except under the military government, entrepreneurs (and some

⁹⁴ See Morck *et al.* (2001).

⁹⁵ Aoki and Sheard (1992) and Hoshi *et al.* (1993) show that the most financially sound firms switched to bond financing very quickly. Hellman, Murdock and Stiglitz (2000) argue that this undermined the banking system. Boot and Thakor (2000) and Fraser, Ghon Rhee, and Shin (2002) both describe the importance of regulatory restraints on competition to relationship banking.

querulous relative) were free to start new firms. Since both *zaibatsu* and *keiretsu* formed spontaneously, survived and prospered, they must have had some competitive advantage over new free-standing firms. There are several candidate explanations for this advantage.

Economies of Scope and Scale

Corporate groups might exist because they are superior modes of corporate organization, and so are good for the economy. *Zaibatsu* and *keiretsu* are clearly large corporate structures that should be able to capture a variety of economies of scope and scale. However, the expansions of both did not seem driven by such economies. *Zaibatsu* remained tightly focused and of limited size until the mass privatizations at the turn of the twentieth century. Anti-takeover defenses seem historically more important than economies of scale and scope in the formation of the *Keiretsu*. Despite their historical pedigrees, both might still have ended up capturing such economies. However the usefulness of corporate groups is also limited in several ways.⁹⁶

A major limitation on scale and scope economies in large firms is the agency problem described by Jensen and Meckling (1976). Aoki (1988, 1994) and others argue that Japanese corporate groups limit such problems. However, Morck *et al.* (2000), and others show that the presence of a controlling shareholder in a pyramidal group is no delivery from agency problems, but rather provides a different form of separation of ownership from control and new agency problems, such as entrenchment and tunneling.

Caves (1982) argues that important returns to scale involve innovation, and Goto (1982) finds that *zaibatsu* were big technology importers.⁹⁷ Diversified groups of firms, importing technology and expanding rapidly in concert, might have allowed a “big push” growth strategy, as in Murphy *et al.* (1989). However, a literature survey by Yafeh (2004) reports no similar finding for postwar *keiretsu*. Economies of scope in vertically integrated *keiretsu* are perhaps more plausible than in horizontal *keiretsu*, from, for example, just-in-time inventory management. This gave Japanese firms a worldwide reputation for efficiency in the 1980s. Huson and Nanda (1995) confirm that just-in-time inventory management adds value in US firms (if inventories are a large fraction of assets, but not otherwise). But, little is actually known about the impact of just-in-time methods on the bottom line of the typical Japanese firm. However, vertical *keiretsu* also shield corporate managers from takeovers. This became overtly evident in the failed 1989 hostile takeover by T. Boone Pickens of Koito Manufacturing, a first-tier supplier in the Toyota vertical *keiretsu*. Even after he became the largest single shareholder of Koito, Pickens could not put himself on Koito’s board. This was because other members of the Toyota *keiretsu* collectively controlled more Koito’s shares than Pickens and acted in concert to block him. They also appear vulnerable to tunneling, for the findings of Morck and Nakamura (1999) are certainly not inconsistent with this. However, we are unaware of direct tests for tunneling in *keiretsu*.

Other economies of scale and scope can arise from superior managers and workers. Morikawa (1980, pp.16-19) reports that *zaibatsu* recruited top managers and technicians; and argues this was a decided advantage. However, the collapse of the Suzuki *zaibatsu* was due to the concentration of corporate control in the hands on one exceptional manager – Naokichi Kaneko. Kaneko made few errors, but a single major mistake destroyed the entire *zaibatsu*.

The postwar *keiretsu* promised lifetime employment, and so were also preferred career paths for Japan’s best university graduates. After the war, many older managers were tainted by wartime associations, engendering a renewed scarcity of talent at that time.⁹⁸ Perhaps superior management gave

⁹⁶ See Yafeh (2002) for a more detailed survey.

⁹⁷ See, for example, Aoki (1988, Ch.6) and Blinder (1991) for a detailed presentation of this view regarding vertical *keiretsu*. See Morck, Shleifer, and Vishny (1990), Lang and Stulz (1994), and many others for evidence of agency problems associated with large, diversified firms.

⁹⁸ Aoki (1988, 1994) proposes that *keiretsu* main banks were special repositories of managerial talent, and lend their expertise to troubled *keiretsu* member firms. Corporate groups could allocate talent to where it was needed, and so make efficient use of scarce governance expertise. Kaplan and Minton (1992), Morck and Nakamura (1999), and

groups an edge at critical points in Japanese history. However Morck and Nakamura (1999) find poor governance in *keiretsu* firms.

Yet another possible source of group economies of scale and scope is centralized capital allocation.⁹⁹ Since external funds cost more than internal funds, a free-standing undiversified company is subject to the vagaries of cost and demand in a single industry. A group bank, or an apex firm that acts as a *de facto* bank, can move funds from member firms where they accumulate to where they are needed. Since the group bank has better information about the investment opportunities available to each firm, it can do this at much lower cost than could outside banks or financial markets. Miyajima (2000) finds little evidence of this in 1930s *zaibatsu*, but some in *keiretsu*.

The depression-era failures of many *zaibatsu* cast further doubt on the merits of groups as capital allocators. The Mitsui, Mitsubishi, and Sumitomo banks, which did avoid lending to their own group companies, survived the depressions. In contrast, *zaibatsu*, like Suzuki, that used their banks to finance their own firms, failed. One possible reason is moral hazard – managers were more reckless if they had guaranteed financing from so-called organ banks. Another is diversification – all the Suzuki firms followed the same strategy, whereas the Mitsui, Mitsubishi, and Sumitomo banks lent to firms with diverse strategies.

Hoshi *et al.* (1991) argue that such financial transfers reduce the cost of financial distress in *keiretsu*. Yafeh (2004) summarizes a literature showing depressed performance in *keiretsu* firms and less variation in their performance. This suggests a co-insurance, rather than banking role – *keiretsu* banks rescue distressed member firms, rather than funding the best firms. Morck and Nakamura (1999) argue that this perpetuated poor governance. Evidence in Hanazaki and Horiuchi (2000, 2001) and Bremer and Pettway (2002) suggests that it also promoted poor governance in the banks themselves; and set the stage for Japan's financial crisis, which undermined the credibility of *keiretsu* main banks' commitments in any case.

Japanese corporate history tells against using a group bank as a financial clearing house or provider of financial insurance. Despite short-run advantages, it carries longer term dangers. The Suzuki *zaibatsu*, and other groups with organ banks, prospered in the short run, but failed when the economy as a whole took a downturn. The horizontal *keiretsu* of the post war period prospered during Japan's long boom, but are clearly having serious problems riding out the current prolonged downturn.

Thus, arguments for scale and scope economies in corporate groups must be balanced against a series of costs these structures impose.

Institutional Asthenia

If groups do not provide an advantage in general, they may do so under circumstances particular to Japan at critical points in its history. Corporate groups might then persist because of the path dependence of institutional development.

Khanna and Palepu (2003, this volume) and elsewhere argue that the economies of scale and scope from corporate groups are more likely to dominate these countervailing costs in economies with weaker institutions. *Zaibatsu*-like groups in modern India survive and prosper because they are an adaptation to market transactions made prohibitively costly by endemic fraud and corruption. Since group firms are all controlled by the same principal, they have greatly reduced incentives to cheat each other. This lets them do business more efficiently than free-standing firms, which depend on dysfunctional markets for capital, managers, labor, suppliers, and customers. Khanna and Palepu (2000) also argue that investments in reputation might have large returns to scale. The Tata family of India invested heavily in acquiring a reputation for fair dealing, sometimes at great financial cost. However, once it established a nation-wide reputation for honesty in an otherwise highly corrupt economy, all manner of firms, banks, and individuals were willing to pay a premium to do business with Tata firms

others show that bank executives were routinely transferred to the boards of financially troubled client firms later in the postwar period.

⁹⁹ See Asashima (1987), Okazaki (1999) and others regarding *zaibatsu*, and Hoshi, Kashyap, and Scharfstein (1990, 1990a, 1991, 1993) and others regarding *keiretsu*.

rather than risk being cheated. It seems plausible that similar conditions prevailed in Meiji and Taisho Japan.

This view is closely related to the idea that coordination across group companies reduces costs, as in Fruin (1992, p.101) and others. Some popular accounts of *keiretsu* go further, arguing that group firms pool information from across a wide range of industries, unavailable to free-standing companies, to foresee critical events, react appropriately, and develop flexibility strategically. This seems implausible, for government planners seem chronically unable to reproduce this feat despite using the whole apparatus of the state to collect information for them.

However, such explanations take a weak institutional environment as given. This seems a strong assumption over the one hundred and thirty five years surveyed in this paper. Haber (1989) argues that oligarchic families in Mexico, who controlled corporate pyramids much like *zaibatsu*, deliberately weakened institutions to benefit themselves and block the entry of competitors. The *zaibatsu* families are thought to have generally supported modernization programs and institutional development such as legal reforms., However, the *zaibatsu* families also clearly had close ties to the pre-military state, and may have shaped institutions to benefit themselves. In post-occupation Japan, there is more discussion of *keiretsu* managers lobbying for institutional weaknesses. It seems likely that *keiretsu* undermined the market for corporate control; and other corporate governance mechanisms, like proxy fights and institutional investor activism, were almost certainly short circuited by this. The large banks and the keystone firms of the great horizontal *keiretsu* almost certainly lobbied for the suppression of the corporate bond market in postwar Japan. Thus, weak institutions may well have been a consequence, as well as a cause, of corporate groups.

Private Benefits of Control

This leads to another possibility – groups might benefit those who control them, rather than the economy as a whole. *Ziabatsu* families may have been willing to pay more for controlling blocks of shares because they valued control *per se* more than other shareholders do. This might be because members of these families have utility functions that assign greater weight to power. If the families are not the most able managers, this could depress publicly traded shares while raising the family's private valuation of its shares. Or, private benefits of control might exist because these families are more proficient than other shareholders at using control over corporate assets to enrich themselves. Likewise, the managers of postwar *keiretsu* firms organized those structures to stymie corporate takeover threats. Had they not garnered utility from their control of great corporations, these actions would have made little sense.¹⁰⁰

There is considerable evidence for the existence of large private benefits of corporate control. Johnson, Magee, Nagarajan and Newman (1985) show that stock prices rise significantly upon the deaths of the firms' aged CEOs. Morck, Shleifer, and Vishny (1988) show that high managerial ownership in certain US firms is associated with depressed public share prices. Barclay and Holderness (1989) show that control blocks trade at higher prices than small transactions. Dyck and Zingales (2004) show that this effect is greater in more corrupt countries. All of these studies are consistent with the existence of large private benefits of control. The finding of Dyck and Zingales in particular suggests that the size of private benefits is related to corruption, and thus favors the view that these benefits involve the consumption of corporate wealth by the controlling shareholder.

¹⁰⁰ It is theoretically possible that these managers were blocking takeovers out of beneficence. For example, their goal might have been to protect myopic shareholders from selling at a large premium to the raider because even larger run-ups in their share prices were likely in the future. However, the repeated empirical rejection of shareholder myopia models undermines such arguments. We should also note that the top managers of many Japanese corporations receive as part of their compensation packages of fringe benefits including expensive housing and golf club membership, chauffeured automobile and the use of special Japanese-style restaurants. Even though their market value is quite high, none of these fringe benefits appear in the executives' income figures. In fact these fringes are known to make significant difference in the executives' standard of living and the psyche. As soon as they leave the executives' positions, these benefits are usually taken away from the executives.

Certainly, the importance of maintaining control was evident in the House Charters of the great *zaibatsu* families and in the autobiographical writings of Yoshisuke Aikawa (1934), the founder of the Nissan *zaibatsu*. Morck and Yeung (2003) argue that the extraction of private benefits of control is less dependent on talent than is genuine entrepreneurship, and that leaving one's heirs opportunities to extract such benefits is therefore a preferred way of providing for them.

A fixation on preserving control rights can lead to inefficiently risk averse investment decisions. Thus, Miyajima (2000) reports that firms belonging to the three major *zaibatsu* exhibit greater risk-averse than firms belonging to newer *zaibatsu*. One explanation for this is more extensive private benefits of control for the principals of the established groups.

In short, private benefits of control certainly figured large in the formation of *zaibatsu* and *keiretsu*. This leaves open, however, the question of whether or not other considerations were also important.

Insulation from Market Pressures

Yet another possibility is that corporate groups benefit the economy overall, but that group firms nonetheless exhibit inferior performance in the eyes of investors. Much literature contemporaneous with the *zaibatsu* stresses their ability to ignore shareholders. For example, a Meiji era report on the Kyushu Railway deplors that the company was “dominated from the start by the vulgar view that it had to economize on building outlays.” This refers to a conflict described by Ushiba (1899) as between “the stockholders desiring an increase in dividends even to the point of reducing the business, and the directors insisting on expanding the business even if it means cutting dividends.” Ericson (1989) describes how a large shareholder, the banker Imamura Seinosuke, tried not only to curtail the railway's vast expansion plans, but to force it to downsize in response to the economic downturn of 1890.

Ericson (1989) applauds the railway's “substantial progress (sic) in separating management from ownership” and the professionalism of its president, Sengoku Mitsugu, who owned little stock and could therefore go “on pursuing his positive policies, thrusting aside a second attempt by disgruntled stockholders to interfere with his program in 1902.” But Ericson concedes that such “sophistication” was the exception.

The Kyushu and Sanyo railroads were Mitsubishi companies, and Mitsubishi “differed from most railway owners in its primary concern for indirect benefits of railway investment.” That is, the Mitsubishi railroads were not intended to maximize shareholder value, but to assist other Mitsubishi companies in transporting inputs and outputs.

The foregoing is a somewhat convoluted way of saying that the *zaibatsu* railroads were forced to over-expand to reduce the shipping costs of other Mitsubishi companies, in a clear instance of ‘self-dealing’ or ‘tunneling’. However, this may not have been economically inefficient. Since railways have a public good component, it is possible that shareholder value maximization would lead to a suboptimal investment. Tunneling by the *zaibatsu* to overbuild might actually improve social welfare, though at the expense of the railways' other shareholders. By 1905, banks and insurance companies had emerged as the major shareholders in most railroads, and such self-sacrifice by railroad shareholders was at an end. The railroads nationalized in 1906 and 1907.

Governments elsewhere certainly took advantage of large corporate groups as preexisting command and control devices for implementing industrial policies. For example, Korea, Malaysia and Sweden appear to have encouraged pyramidal groups so that government officials could influence the corporate sector by dealing directly with a few individuals – the patriarchs in charge of the pyramids. The governments in question seem to have believed, perhaps correctly, that these small group interactions allowed a highly effective transmission of government policies and a better coordination of private and public sector initiatives.

Certainly, the *zaibatsu* were more agile and willing than free standing firms to change direction rapidly in order to accommodate changing government policy objectives. By rapidly expanding one firm with capital from others, the *zaibatsu* could quickly change direction and focus. Their large established

capital bases also let them enter new industries quickly. Postwar *keiretsu* were also favored as vehicles through which industrial policy might be implemented.

This agility was clearly beneficial in terms of endearing the *zaibatsu* and *keiretsu* to certain government officials. However, it did not always enrich the groups involved. Certainly, the *zaibatsu* families lost out heavily during the war despite their groups' agility in expanding munitions production. More generally, deviating from value maximizing behavior has costs that should accrue to the disadvantage of the group over time. This may explain the weakness of the *keiretsu* firms in present day Japan.

Economies of Scale and Scope in Political Rent Seeking

A final possibility is that the close relationships corporate groups develop with government generate financial returns that compensate for profits lost while pursuing government objectives. Morck, Stangeland and Yeung (2000), in discussing pyramidal groups throughout the world, argue that government officials and great mercantile family patriarchs who come to know and trust each other are likely to engage in mutual back-scratching, favors-trading, and other forms of corruption that, while beneficial for the family group of firms, can greatly damage the economy. Fisman (2001), Johnson and Mitton (2001), Morck, Stangeland and Yeung (2000), Rajan and Zingales (2003) and others present empirical evidence consistent with this more skeptical view.

There is considerable evidence that business-government relations in both prewar and postwar Japan were largely organized around rent seeking. Morikawa (1992, pp.3-4) argues that political entrepreneurship, the use of ties to powerful political figures to obtain government favors, reaped huge returns in the provision of goods and services to the state and to state-owned enterprises in the Meiji period.

The great *zaibatsu* of prewar Japan all obtained a leg up on their competitors due to government favors. The Sumitomo obtained their cash cow copper mines because of their close association with the Tokugawa regime. The Mitsui and Mitsubishi *zaibatsu* obtained cash cow mining operations in barely competitive privatizations by the Meiji government. All three prospered in prewar Japan in part because of their ability to give the government what it wanted when it wanted it. If the government decided Japan needed to export, the *zaibatsu* could move into export oriented businesses. If the government decided Japan needed technology, the *zaibatsu* could rev up their machinery production. In short, the *zaibatsu* seem to have been able to react to the changing whims of government policy makers with greater nimbleness and forcefulness than other firms could manage.

In postwar Japan, the *keiretsu* firms and their main banks also appear to have been generously subsidized for their enthusiasm about industrial policy programs. Indeed, Beason and Weinstein (1996) show that the greater part of Japan's postwar industrial subsidies went to mining operations, most of which were members of the large horizontal *keiretsu*. In contrast, independent companies like Honda were denied subsidies for deliberately contravening industrial policy plans by, for example, producing automobiles when told not to.

The importance of rent-seeking in post-war Japan is evident in the status accruing to employment in government. This status existed largely because of the attractions of a career path involving *amakudari*: Literally, "descent from heaven". *Amakudari* involves an older, high-ranking government official leaving his post to become a senior manager in industry, and was a common path to the boardroom in postwar Japan. This practice may have made sense in the immediate postwar period, when there was perhaps a serious shortage of talent due to the purging of senior executives who had cooperated with the military government.

However, *amakudari* subsequently devolved into a system of regulator capture, as described by Stigler (1971). This was largely because of the *genkyoku* principle, whereby specific ministries claimed exclusive regulatory power over specific industries. Since civil servants in these ministries were prime candidates for *amakudari*, the ministries rapidly became vocal advocate within government for the interests of their industries. For example, in the race for industrial promotion of biotechnology, the Ministry of Health wanted to participate in policymaking explicitly on behalf of the pharmaceutical

industry, its traditional *amakudari* partners. Since the great *keiretsu* firms both included the most attractive *amakudari* landing spots and were the most enthusiastic about *amakudari*, these groups may have enjoyed an advantage, in the short term at least, due to their better connections with government.

This regulatory capture is now thought by some researchers to have contributed to Japan's current economic and governance problems.¹⁰¹ Bureaucrats uncritically advanced industry agendas, hopeful of *amakudari* opportunities. Corporate executives, former bureaucrats, realized that their talents were in influencing government, rather than overseeing new research and development programs. The result was an unhealthy regulatory morass that came to surround many established industries in Japan, and that is now the subject of much criticism.

9. Conclusions

During Japan's modern history, beginning in 1868, its corporate sector was first organized into great family pyramids, or *zaibatsu*, then subjected to Soviet-style central planning, then reorganized into widely held firms, and finally restructured into *keiretsu* corporate groups. While many lessons lie in Japan's complicated development story, a few that have to do with the interaction between the corporate sector and Japan's institutions are especially noteworthy. Although Japan specialists often write of *zaibatsu* as uniquely Japanese constructs, they are typical of the family controlled pyramidal groups that the other papers in this volume show dominating the corporate sectors of most other countries. The postwar *keiretsu*, in contrast, are more uniquely Japanese. *Zaibatsu* were probably sensible structures for sidestepping Japan's early, and probably poorly functioning markets. By doing business mainly with each other, *zaibatsu* firms could avoid being cheated or otherwise harmed in inefficient and opaque markets for goods, labor, and capital. The postwar *keiretsu*, which actually are a uniquely Japanese phenomenon, may have been, in part at least, a similar response to the chaotic early postwar years.

But both *zaibatsu* and *keiretsu* were also devices for entrenching insiders. *Zaibatsu* let great mercantile families and entrepreneurial individuals direct vast amounts of public investor capital, yet retain full control of all the ventures so funded. *Keiretsu* probably formed to stop hostile takeovers and tenure professional managers. That insiders sought such entrenchment indicates that they received private benefits of control.

The passage of time exposed many weaknesses of corporate groups.

One popular argument for groups is that a group banks can finance group firms, avoiding information asymmetry problems and other capital market failures. Japanese history shows that such arrangements invite moral hazard and agency problems. *Zaibatsu*, like Suzuki, that followed this model, failed during the depression era. The current problems of the great horizontal *keiretsu* also seem to stem from a history of inefficient capital allocation.

Although *zaibatsu* and *keiretsu* might initially have been devices for extracting economies of scale from scarce talented managers, by entrenching insiders, they ultimately kept talented outsiders out of boardrooms. This certainly affected firm-level performance. But it may have retarded macroeconomic growth as well. Morikawa (1980, 1992) argues that entrenched *zaibatsu* families' risk-aversion and aversion to external financing to preserve family control retarded prewar Japan's growth. He argues that few projects for Japan's industrialization were initiated by *zaibatsu*. Morck *et al.* (2000) argue that oversight by entrenched bankers may have had a similar effect on *keiretsu* firms.

Yet despite these and other weaknesses, corporate groups persisted.

In part this was because they retained genuine economies of scale and scope. *Zaibatsu* in particular funneled foreign technology into Japan, probably continually renewing their economies of scale.

But both *zaibatsu* and *keiretsu* probably also altered Japanese institutions to favor their continued importance. Both supported Japan's political elite vigorously at certain critical historical junctures. By participating enthusiastically in government industrial policies, no matter how wrong-headed, *zaibatsu* and *keiretsu* nurtured relationships that generated both subsidies and political influence. This influence was often instrumental in securing lasting advantages over the competition, as when the early *zaibatsu*

¹⁰¹ See Horiuchi and Shimizu (2001) for a discussion of the role of *amakudari* in Japan's current economic downturn.

families obtained tax farming concessions, mines, and government contracts. The cooperation of *zaibatsu* and *keiretsu* with industrial policies probably led captive regulator problems. Entire ministries were likely captured by industrial groups through *genkyoku* and *amakudari*. This undermined the state's ability to regulate prudently the economy and the financial system, and locked in favoritism to established large firms that played the game. The collapse of the Suzuki *zaibatsu* because of its *lack* of political connections is the exception to prove this rule. In the postwar period, *keiretsu* banks and firms also benefited disproportionately from regulatory favoritism and overt subsidies. By lobbying for the suppression of the corporate bond market in postwar Japan, main *keiretsu* banks seriously weakened the financial system overall.

Thus *zaibatsu* and *keiretsu* survived the institutional conditions that gave them birth. By investing heavily in political connections, they prolonged their competitive advantage even as the institutional deficiencies underlying their formation faded. But this political rent-seeking prolonged some institutional weaknesses and engendered others.

Murphy *et al.* (1991) and many show pervasive rent-seeking to impede growth. This is because it diverts talented individuals from genuine entrepreneurship towards more lucrative careers in rent-seeking. Both rent seeking and innovation have increasing returns to scale for individuals and firms. However, rent seeking is a zero or negative sum game, while innovation is a positive sum game. Diverting talent into ever more lucrative rent seeking diverts ever greater resources into zero or negative sum games, and thus slows growth.

We do not argue that groups are wholly bad. Rather, Japan's history exposes how groups in general, and groups that rely on internal capital markets in particular, can distort institutional development.

References

- Acemoglu, Daron, Simon Johnson and James Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review* 91(5) 1369-1422.
- Aikawa, Y. 1934. *New Capitalism and Holding Companies*. Tokyo Bankers Association.
- Allen, Franklin and Douglas Gale. 2000. *Comparing Financial Systems*. MIT Press.
- Aoki, Masahiko and Paul Sheard. 1992. "The role of the main bank in the corporate governance structure in Japan," paper presented at conference on the Corporate Governance: New Problems and New Solutions Structure in Japan, Center for Economic Policy Research, Stanford University, CA., May 1-2.
- Aoki, Masahiko. 1988. *Information, Incentives, and Bargaining in the Japanese Economy*. Cambridge University Press, Cambridge.
- Aoki, Masahiko. 1994. "Monitoring Characteristics of the Main Bank System: An Analytical and Developmental View." In Aoki, Masahiko and Hugh Patrick (eds.), *The Japanese Main Bank System: It's Relevancy for Developing and Transforming Economies*. Oxford University Press.
- Asajima, Shoichi. 1984. "Financing of the Japanese Zaibatsu." In Akio Okochi and Shigeaki Yasuoka (eds.), *Family Business in the Era of Industrial Growth*. University of Tokyo Press.
- Asashima, Shoichi. 1982. *Inter-War Period Sumitomo Zaibatsu Business History (Senkanki Sumitomo zaibatsu keieishi)*, (in Japanese), University of Tokyo Press, Tokyo.
- Barclay, Michael and Clifford Holderness. 1989. "Private benefits from control of corporations," *Journal of Financial Economics* 25, 371-395.
- Beale, Adolf and Gardiner Means. 1932. *The Modern Corporation and Private Property*. Macmillan, New York.
- Beason, Richard and David E. Weinstein. 1996. "Growth, economies of scale, and targeting in Japan (1955-1990)," *Review of Economics & Statistics* (78)2, May, 286-295.
- Becht, Marco and J. Bradford DeLong. 2004. *A History of Corporate Ownership in the United States*. This volume.
- Bertrand, M.P., P. Mehra and S. Mullainathan. 2002. "Ferretting out tunneling: an application to Indian business groups," *Quarterly Journal of Economics* 117, 121-148.
- Bisson, T. 1954. *Zaibatsu dissolution in Japan*. University of California Press, Berkeley, CA.

- Blinder, Alan, S. 1991. "A Japanese Buddy System that could Benefit U.S. Business," *Business Week* (October 14), p. 32.
- Boot, Arnoud and Anjan Thakor. 2000. "Can relationship banking survive competitions?" *Journal of Finance* 55, 679-713.
- Bremer, Marc and Richard Pettway. 2002. "Information and the market's Perceptions of Japanese Bank Crisis: Regulation, Environment, and Disclosure," *Pacific Basin Finance Journal* 10, 119-139.
- Caves, Richard and Masu Uekusa. 1976. *Industrial Organization in Japan*. Brookings Institution, Washington, D.C
- Caves, Richard. 1982. *Multinational Enterprise and Economic Analysis*. Cambridge University Press.
- Cha, Myung Soo. 2001. "The Origins of the Japanese Banking Panic of 1927," Institute of Economic Research Discussion Paper Series A No.408, Hitotsubashi University, Tokyo.
- Claessens Stijn, Simeon Djankov, Larry H.P. Lang. 2000. "The separation of ownership and control in East Asian Corporations," *Journal of Financial Economics* 58(1-2), 81-112.
- Claessens, Stijn, Simeon Djankov, Joseph Fan, and Larry Lang. 2002. "Expropriation of minority shareholders in East Asia," *Journal of Finance*, forthcoming.
- Dower, John. 2000. *Embracing Defeat – Japan in the Aftermath of World War II*. Penguin Books.
- Dyck, Alexander and Luigi Zingales. 2004. Private Benefits of Control: An International Comparison. *Journal of Finance* 59(2) 537-601.
- Ericson, Steven. 1989. "Private railroads in the Meiji Era: Forerunners of Modern Japanese Management." In Tsunehiko Yui and Keiichiro Nakagawa (eds.), *Japanese Management in Historical Perspective*. University of Tokyo Press.
- Faccio, Mara and Larry H.P. Lang. 2003. "The Separation of Ownership and Control: An Analysis of Ultimate Ownership in Western European Countries," *Journal of Financial Economics* 65(3), 365-395.
- Fisman, Raymond. 2001. "Estimating the value of political connections," *American Economic Review* 91(4), 1095-1103.
- Fletcher, William Miles III. 1989. *The Japanese Business Community and National Trade Policy 1920-1942*. University of North Carolina Press.
- Fouraker, L. 2002. "Precursors of convergence in interwar Japan: Kaneko Naokichi and the Suzuki Trading Company," paper presented at Media in Transition 2: *Globalization and Convergence*, May 10-12, 2002 at MIT, Cambridge, MA.
- Franks, Julian, Colin Mayer and Stefano Rossi. 2004. *A History of Corporate Ownership in the United Kingdom*. This volume.
- Fraser, Donald, S. Ghon Rhee, and Guen Hwan Shin. 2002. *The Impact of Interbank and Capital Market Competition on Relationship Banking: Evidence from the Japanese Experience*. University of Hawaii working paper.
- Fruin, W. Mark. 1983. *Kikkoman: Company, Clan, and Community*. Harvard University Press, Cambridge, MA.
- Fruin, W. Mark. 1992. *The Japanese Enterprise System: Competitive Strategies and Cooperative Structures*, Oxford University Press, New York.
- Fukuzawa, M. 1930. *Business Leaders: Personal Views (Zaikai jinbutsu gakan)*, (in Japanese), Tokyo.
- Gerlach, Michael L. 1992. *Alliance Capitalism: The Social Organization of Japanese Business*, University of California Press, Berkeley, CA.
- Glaeser, Edward and Andrei Shleifer. 2002. "Legal Origins," *Quarterly Journal of Economics* 117(4), 1193.
- Gompers, Paul and Josh Lerner. 2002. *The Venture Capital Cycle*. MIT Press.
- Goto, Akira. 1982. "Business Groups in a Market Economy," *European Economic Review* 19, 53-70.
- Haber, Stephen. 1989. *Industry and Underdevelopment: The Industrialization of Mexico, 1890-1940*. Stanford University Press.
- Hadley Eleanor. 1970. *Antitrust in Japan*. Princeton University Press, Princeton, NJ.

- Hamada, Koichi. 1998. "The Incentive Structure of a "Managed Market Economy: Can it Survive the Millennium?" *American Economic Review* 88(2), 417-21.
- Hanazaki, Masuharu and Akiyoshi Horiuchi. 2000. "Is Japan's Financial System Efficient?" *Oxford Review of Economic Policy* 16(2), 61-73.
- Hanazaki, Masuharu and Akiyoshi Horiuchi. 2001. "A Vacuum of Governance in the Japanese Bank Management." In H. Osano and T. Tachibanaki (eds.), *Banking, Capital Markets and Corporate Governance*. Palgrave, 133-180.
- Hanazaki, Masuharu and Akiyoshi Horiuchi. 2003. A Review of Japan's Bank Crisis from the Governance Perspective. Hitotsubashi University working paper.
- Hasegawa, Yasubei. 1938. *Various Issues of Joint Stock Companies (Kabushiki Kaisha no Shomondai)*, (in Japanese), Tokyo Taibunsha, Tokyo.
- Hashimoto, J. 1997. "Japanese Industrial Enterprises and the Financial Market between the Two World Wars." In P.L.Cottrell, A.Teichova and T.Yuzawa (eds.), *Finance in the Age of the Corporate Economy: The Third Anglo-Japanese Business History Conference*, Ashgate, Hants, U.K. 94-117.
- He, Kathy, Randall Morck and Bernard Yeung. 2004. Stability. Working paper.
- Hellman, Thomas, Kevin Murdock and Joseph Stiglitz. 2000. "Liberalization, moral hazard in banking, and prudent regulation: Are capital requirements enough," *American Economic Review* 90(1), 147-65.
- Horiuchi, Akiyoshi and Katsutoshi Shimizu. 2001. "Did Amakudari Undermine the Effectiveness of Regulator Monitoring in Japan?" *Journal of Banking and Finance* 25(3), 573-96.
- Horiuchi, Ariyoshi. 1999. "The Basis of Japan's Financial Structure: A Survey" (Nihonni okeru kinyu kozo no kiso: tenbo). (In Japanese.), *Financial Review*. Japanese Ministry of Finance Research Institute, June, 1-32.
- Hoshi, Takeo and Anil Kashyap. 2001. *Corporate Financing and Governance in Japan: The Road to the Future*. MIT Press.
- Hoshi, Takeo, Anil Kashyap and David Scharfstein. 1990. The role of banks in reducing the costs of financial distress in Japan, *Journal of Financial Economics* 27 67 88.
- Hoshi, Takeo, Anil Kashyap, and David Scharfstein. 1991. "Corporate structure, liquidity, and Investment: Evidence from Japanese Industrial Groups," *Quarterly Journal of Economics* 106, 33-60.
- Hoshi, Takeo, Anil.. Kashyap, and David Scharfstein. 1990a. Bank monitoring and investment: Evidence from the changing structure of Japanese corporate banking relationship. In Glenn Hubbard, ed. *Asymmetric, information, corporate finance, and investment*. University of Chicago Press.
- Hoshi, Takeo, Kashyap, Anil, and David Scharfstein. 1993. The choice between public and private debt: An analysis of post-deregulation corporate financing in Japan, Unpublished manuscript, MIT.
- Hoshi, Takeo. 1995. "Cleaning Up the Balance Sheets: Japanese Experience in the Post-War Reconstruction Period." In M. Aoki and H.-K. Kim (eds.), *Corporate Governance in Transitional Economies: Insider Control and the Role of Banks*, Washington, DC; The World Bank, 303-359
- Huson, Mark and Dhananjay Nanda. 1995. "The impact of just-in-time manufacturing on firm performance in the US," *Journal of Operations Management* 12(3,4), 297-311.
- Ito, Masanao. 2001. The financial system crisis in the 1920s: the structure and responses (Showashonen no kinyu system kiki: sono kozo to taio). (in Japanese.) Paper # 2001-J-24. Institute of Monetary and Economic Studies, Bank of Japan, Tokyo.
- Jensen, Michael and William Meckling 1976. The Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*. 3 305-360.
- Johnson, Simon and Todd Mitton. 2001. Who Gains from Capital Controls? Evidence from Malaysia. Unpublished paper.
- Johnson, Simon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2000. "Tunneling," *American Economic Review* 90(2), May, 22-27.

- Johnson, W. Bruce, Robert P. Magee, Nandu J. Nagarajan and Henry A. Newman. 1985. "An Analysis of the Stock Price Reaction to Sudden Executive Deaths: Implications for the Management Labor Model," *Journal of Accounting and Economics* 7(1-3), April, 151-174.
- Kaplan, Steven and Bernadette Minton. 1992. Outside intervention in Japanese companies: Its determinants and its implications for managers, *Journal of Financial Economics* 36 225-258.
- Kato, T. 1957. *History of Banks in Japan (Honpo ginkoshiron)*, (in Japanese), University of Tokyo Press, Tokyo.
- Khanna, Tarun and Krishna Palepu. 2000. "Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups," *Journal of Finance* 55(2), April, 867-93.
- Khanna, Tarun and Krishna Palepu. 2004. A History of Corporate Ownership in India. This volume.
- Kobayashi, Masaski. 1985. "Japan's Early Industrialization and the Transfer of Government Enterprises: Government and Business," *Japanese Yearbook on Business History: 1985*, 54-80.
- La Porta, Rafael, Florencio López-de-Silanes, Andrei Shleifer and Robert Vishny. 1999. "Corporate Ownership Around the World," *Journal of Finance* 54(2), April, 471-520.
- Lang, Larry and René Stulz. 1994. "Tobin's q, corporate diversification, and firm performance," *Journal of Political Economy* 102, 1248-80.
- Lincoln, J., M. Gerlach, and C. Ahmadjian. 1996. "Keiretsu Networks and Corporate Performance in Japan," *American Sociological Review* 61, 67-88.
- Lincoln, J., M. Gerlach, and P. Takahashi. 1992. "Keiretsu Networks in the Japanese Economy: A Dyad Analysis of Intercorporate Ties," *American Sociological Review* 57, 561-585.
- Ministry of Finance. 1983. *Incorporate Businesses Statistics (Hojin kigyo tokei)*, (In Japanese), Tokyo.
- Mishima, Y. (ed.). 1981. *The Mitsubishi Zaibatsu*, (in Japanese), Nikkei, Tokyo.
- Mitsubishi Bank. 1954. *History of the Mitsubishi Bank (Mitubishi ginkoshi)*, (in Japanese), Mitsubishi Bank, Tokyo.
- Miwa and Ramseyer. 2002. "The Fable of the Keiretsu," *Journal of Economics & Management Strategy*, 11, 169-224.
- Miyajima, Hideaki. 1994. "Transformation of Zaibatsu to Postwar Corporate Groups - From Hierarchically Integrated Groups to Horizontally Integrated Groups," *Journal of the Japanese and International Economies* 8, 293-328.
- Miyajima, Hideaki. 1999. "Presidential Turnover and Performance in the Japanese Firm: The Evolution and Change of the Contingent Governance Structure under the Main Bank System." In Daniel Dirks, Jean-Francois Huchet, and Thierry Ribault (eds.) *Japanese Management in the Low Growth Era: Between External Shocks and Internal Evolution*. Heidelberg: Springer, 121-44.
- Miyajima, Hideaki. 2000. *Ownership structure, capital structure and investment of Japanese corporations: comparison between the inter-war period and high-growth period (Nihon kigyono shoyukozo, shihon kosei, setsubitoshi: senkanki to kodo seichokino kozo hikaku)*, (in Japanese), mimeo, Waseda University, Tokyo.
- Miyamoto, Matao. 1984. "The Position and Role of Family business in the development of the Japanese Company System." In Akio Okochi and Shigeaki Yasuoka (eds.) *Family Business in the Era of Industrial Growth*. University of Tokyo Press.
- Morck, Randall and Bernard Yeung. 2003. Agency problems in large family business groups, with Bernard Yeung. *Entrepreneurship Theory and Practice* 27(4) 367.
- Morck, Randall and Masao Nakamura. 1999. "Banks and Corporate Control in Japan," *Journal of Finance*, 54, 319-339.
- Morck, Randall and Masao Nakamura. 2001. "Japanese Corporate Governance and Macroeconomic Problems." In Masao Nakamura (ed.), *The Japanese Business and Economic System: History and Prospects for the 21st Century*. Palgrave/Macmillan/St. Martin's Press, London and New York, 325-349.
- Morck, Randall, Andrei Shleifer and Robert Vishny. 1988. "Management Ownership and Market Valuation: An Empirical Analysis." *Journal of Financial Economics* 20(½), Jan./Mar. 293-315.

- Morck, Randall, Andrei Shleifer and Robert Vishny. 1988b. "Characteristics of Targets of Hostile and Friendly Takeovers." In Allan Auerbach (ed.), *Corporate Takeovers: Causes and Consequences*. National Bureau of Economic Research Conference Volume, University of Chicago Press.
- Morck, Randall, Andrei Shleifer and Robert Vishny. 1989. "Alternative Mechanisms for Corporate Control," *American Economic Review* 79(4), 842-852.
- Morck, Randall, Andrei Shleifer and Robert Vishny. 1990. Do Managerial Objectives Drive Bad Acquisitions? *Journal of Finance*. March. 45(1) 31-48.
- Morck, Randall, David A. Stangeland, and Bernard Yeung. 2000. "Inherited Wealth, Corporate Control, and Economic Growth: The Canadian Disease." In R. Morck (ed.) *Concentrated Corporate Ownership*. National Bureau of Economic Research Conference Volume. University of Chicago Press. Also circulated as National Bureau of Economic Research working paper #6814 (1998).
- Morck, Randall, Masao Nakamura, and Anil Shivdasani. 2000. "Banks, Ownership Structure, and Firm Value in Japan," *Journal of Business* 73, 539-569.
- Morikawa, Hidemasa. 1976. "Local Zaibatsu (Chiho zaibatu)" (in Japanese). In S. Yasuoka (ed.), *Japanese zaibatsu (Nihonno zaibatsu)*, Nikkei, Tokyo, 146-175.
- Morikawa, Hidemasa. 1980. *Zaibatsuno keieishiteki kenkyu (Business history research of zaibatsu)*, (in Japanese), Toyo Keizai, Tokyo.
- Morikawa, Hidemasa. 1992. *Zaibatsu: the rise and fall of family enterprise groups in Japan*, University of Tokyo Press, Tokyo.
- Murphy, Kevin M., Andrei Shleifer, and Robert Vishny. 1991. The Allocation of Talent: Implications for Growth. *Quarterly Journal of Economics*. May. 503-530.
- Murphy, Kevin, Andrei Shleifer, and Robert Vishny. 1989. "Industrialization and the Big Push." *Journal of Political Economy* 97, 1003-1026.
- Nissho. 1968. *History of Nissho's 40 Years (Nissho 40nen no Ayumi)*, Nissho, Tokyo.
- Noguchi, Yukio. 1998. "The 1940 System: Japan under the Wartime Economy," *American Economic Review Papers and Proceedings* 88, May, 404-406.
- Ogura, S. 2002. *Banking, the State and Industrial Promotion in Developing Japan, 1900-73*. Palgrave, Houndmills, U.K.
- Okazaki, Tetsuji and Masahiro Okuno-Fujiwara. 1993. *Gendai Nihon Keizai Sisutemu no Genryu (The Origin of the Contemporary Japanese Economic System)*, (In Japanese) Tokyo: Toyo Keizai.
- Okazaki, Tetsuji, and Kazuki Yokoyama. 2001. "Governance and Performance of Banks in Prewar Japan: Testing the 'Organ Bank' Hypothesis Quantitatively," Center for International Research on the Japanese Economy discussion paper CJRJE-F-111, Faculty of Economics, University of Tokyo, April.
- Okazaki, Tetsuji. 1994. "The Japanese Firm under the Wartime planned Economy." In Masashiko Aoki and Ronald Dore (eds.), *The Japanese Firm – Sources of Competitive Strength*. Oxford University Press.
- Okazaki, Tetsuji. 1999. *Economic history of the holding company: Zaibatau and corporate governance (Mochikabu kaishano keizaishi: zaibatsuto kigyo tochi)*, (in Japanese), Chikuma Shobo, Tokyo.
- Okumura, H. 1976. *Japanese Six Major Corporate Groups (Nihonno rokudai kigyo shudan)*, (in Japanese). Diamondsha, Tokyo.
- Patrick, Hugh. 1967. "Japan." In Rondo Cameron, et al. (eds.), *Banking in the Early Stages of Industrialization*. Oxford University Press.
- Porter, Michael. 1990. *The Competitive Advantage of Nations*. Free Press. New York.
- Rajan, Raghuram and Luigi Zingales. 2003. "The Great Reversals: The Politics of Financial Development in the Twentieth Century," *Journal of Financial Economics* 69(1), 5.
- Rajan, Raghuram. 1992. "Insiders and Outsiders: The choice between relationship and arm's length debt," *Journal of Finance* 47, 1367-400.
- Reischauer, Edwin O. 1988. *The Japanese Today: Change and Continuity*. Harvard University Press, Cambridge: MA.

- Sheard, Paul. 1991. "The economics of interlocking shareholding in Japan," *Recherche Economique* 45, 421-448.
- Sheard, Paul. 1994. "Interlocking Shareholdings and Corporate Governance." In Masahiko Aoki and Ronald Dore (eds.) *The Japanese Firm: Sources of Competitive Strength*. Oxford University Press.
- Shiomi, Saburo. 1957. *Japan's Finance and Taxation: 1940-1956*. Columbia University Press, New York.
- Shleifer, A., and Vishny, R. 1986. "Large shareholders and corporate control," *Journal of Political Economy* 94, 461-488.
- Shogyo Koshinsho 1930. *Japanese Directory of Company Directors (Nihon zenkoku shokaiisha yakuinroku)*, (in Japanese), Shogyo Koshinsho, Tokyo.
- Stigler, George. 1971. "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science* 2, Spring, 3-21.
- Takahashi, Kamekichi, and J. Aoyama. 1938. *The Japanese Zaibatsu (Nihon zaibatsu ron)*, Shunjusha, Tokyo.
- Takahashi, Kamekichi. 1930. *Analysis of Japanese Zaibatsu (Nihon zaibatsu no kaibo)*, (in Japanese), Chuokoronsha, Tokyo.
- Takahashi, Kamekichi. 1930. *The Stock Company – A Cause of National Decay (Kabushiki Gaisha Bokokuron)*.
- Takeda, Haruhito. 1995. "The structures of large firms and zaibatsu (Daikigyo no kozo to zaibatu)," (in Japanese). In T. Yui and E. Daito (eds.), *Arrival of Large Corporations (Daikigyo jidai no torai)*, Iwanami, Tokyo, 79-115.
- Tamaki, Hajime. 1976. *History of Japanese Zaibatsu (Nihon Zaibatsushi)*, (in Japanese), Shakai Shissha, Tokyo.
- Tamaki, Norio, 1995. *Japanese Banking: A History, 1859-1959*. Cambridge University Press, Cambridge, U.K.
- Toyo Keizai, 1991. *Company Keiretsu Groupings 1992 (Kigyo Keiretsu Soran '92)*, (in Japanese), Toyo Keizai Shimposha, Tokyo.
- Udagawa, M. 1976. "New Zaibatsu (Shinko zaibatsu)." In S. Yasuoka (ed.), *Japanese zaibatsu (Nihonno zaibatsu)*, Nikkei, Tokyo, 107-144.
- Ushiba Takuzo. 1899. "Tetsudo eigyo no hoshin," *Tetsudo jiho* #14 (May).
- Yafeh, Yishay, 2000. "Corporate governance in Japan: Past performance and future prospects," *Oxford Review of Economic Policy* 16(2), 74-84.
- Yafeh, Yishay. 1995. "Corporate ownership, profitability, and bank-firm ties: evidence from the American occupation reforms in Japan," *Journal of the Japanese and International Economies* 9, 154-173.
- Yafeh, Yisheh. 2004. "Japan's Corporate Groups: Some International and Historical Perspectives." Forthcoming in M. Blomstrom, J. Corbett, F. Hayashi and A. Kashyap (eds.), *Structural Impediments to Growth in Japan*. University of Chicago Press.
- Yamamura, Kozo 1976. "General trading companies in Japan: their origins and growth." In Hugh Patrick (ed), *Japanese Industrialization and Its Social Consequences*, University of California Press, Berkeley, CA, 161-199.
- Yamazaki, H. 1988. "The Development of Large Enterprises in Japan: An Analysis of the Top 50 Enterprises in the Profit Ranking Table (1929-1984)," *Japanese Yearbook on Business History* 5, 12-55.
- Yasuoka, Shigeaki (ed.) 1976. *Japanese zaibatsu (Nihonno zaibatsu)*, Nikkei, Tokyo.
- Yasuoka, Shigeaki. 1984. "Capital Ownership in Family Companies: Japanese Firms Compared With Those in Other Countries." In Akio Okochi and Shigeaki Yasuoka (eds.), *Family Business in the era of industrial Growth*. University of Tokyo Press.
- Yokoi, Hideki. 1960. Quoted in *Zaikai*, August 15, 1960, p.83, (in Japanese). Reprinted in Makoto Sataka, *Sengo Kigyo Jikenshi (Post-War Corporate Events)*, (in Japanese), Kodansha, Tokyo, 1994, p.35.

Table 1. Ten Zaibatsu Combines Designated by HCLC for Dissolution

<i>Zaibatsu</i>	<i>Number of subsidiaries in 1937</i>	<i>Number of subsidiaries in 1946</i>	<i>Paid-in capital as % of Japan's 1946 total^a</i>
Mitsui	101	294	9.4
Mitsubishi	73	241	8.3
Sumitomo	34	166	5.2
Yasuda	44	60	1.6
<i>The big four total</i>	252	761	24.5
Nissan	77	179	5.3
Asano	50	59	1.8
Furukawa	19	53	1.5
Okura	51	58	1.0
Nakajima	-	68	0.6
Nomura	-	19	0.5
<i>The other six total</i>	197	439	10.7
<i>Top ten zaibatsu total</i>	449	1200	35.2

Source: HCLC volumes as cited in Hadley (1970), Takahashi and Aoyama (1938, pp. 151-152).

^a Japanese government estimates for Japan's paid-in capital in 1946 are: 32 billion yen (Ministry of Commerce and Industry), 43 billion yen (Ministry of Finance) and 48 billion yen (Bank of Japan). The HCLC used the Ministry of Commerce and Industry estimate without any explanation in deriving these figures.

Table 2. Ownership shares of the Mitsui families

<i>Mitsui family member in 1694</i>	<i>1694 Takatoshi's will^a</i>	<i>1722 Takahira's will^b</i>	<i>1867 – 1873 End of Edo/ Meiji Rest.</i>	<i>1909 Mitsui partnership established^c</i>
Mitsui, Takatoshi's sons				
Oldest son	29(41.5%)	62(28.2%)	62(28.2%)	230(23.0%)
Second oldest son (Takahira)	13(18.6)	30(13.6)	30(13.6)	115(11.5)
Third oldest son	9(12.9)	27(12.3)	27(12.3)	115(11.5)
Fourth oldest son	7.5(10.7)	25(11.4)	25(11.4)	115(11.5)
Sixth oldest son	4.5(6.4)	22.5(10.2)	---	---
Ninth oldest son	1.5(2.1)	22.5(10.2)	22.5(10.2)	115(11.5)
Tenth oldest son (merged with sixth)	1.2(2.1)	---	22.5(10.2)	115(11.5)
Other relatives and wife				
1 Takatoshi's wife	100 silver kanme ^d	---	---	---
2	2(2.9)	8(3.6)	8(3.6)	39(3.9)
3	1.5(2.1)	---	---	---
4	0.8(1.1)	6(2.7)	6(2.7)	39(3.9)
5	---	7(3.2)	7(3.2)	39(3.9)
6	---	---	2.5(1.2)	39(3.9)
7	---	---	3(1.4)	39(3.9)
Remainder	---	10(4.5)	4.5(2.0)	---
Total	70(100%)	220(100%)	220(100%)	1,000(100%)

^a The founder of the Mitsui family enterprise, Hachirobei-Takatoshi Mitsui (1622-1694), began co-ownership of their family business. His 1694 will states that total family business annual profits be divided into 70 units for an annual distribution among his wife and sons.

^b Takahira, the second generation head of the Mitsui family business, revised the profit distribution method in his 1722 will. The will states that total annual profits be divided into 220 units for an annual distribution among the family owners of the business. In this revision the ownership shares of the first and second sons' families were decreased while the ownership shares of other family members and relatives were increased. These revised ownership shares remained unchanged for the following 150 years.

^c After the revision of the Mitsui family constitution was worked out during the first 20 years of the Meiji period, the Mitsui family partnership was created and its ownership shares remained unchanged into the 1940s.

^d 1 kanme is about 3.75 kg.

Table 3. Amounts of shares held (paid-in book value, 1000 yen)

Company	Date	Shares held (paid-in book value, ¥1000)
Mitsui Bussan	April 1910	1,699
Mitsui Bank	December 1909	4,893
Mitsui Partnership	January 1910	42,420

Table 4. The Mitsui Zaibatsu Companies in 1930

	Authorized capital (million yen)	Paid-in capital (million yen)	Mitsui Gomei percent stake
Mitsui family holding company			
Mitsui Gomei	300	300	n/a
<i>Mitsui's designated subsidiaries</i>			
<i>Mitsui Bank</i>	100	60	100
Mitsui Bussan	100	100	100
Mitsui Mining	100	62.5	100
Toshin Warehousing	15	12.5	100
Mitsui Trust	30	7.5	100
Mitsui Life Insurance	2	0.5	100
<i>Subsidiaries of Mitsui's designated subsidiaries</i>			
<i>Taiheiyō Colliery</i>	11	5.5	
Kamaishi Mining	20	20	
Claude-Process Nitrogen Industries	10	10	
Toyo Cotton Trading	25	15	
Toyo Rayon	10	10	
<i>Mitsui's ordinary subsidiaries</i>			
<i>Ojo Paper</i>	65.91	48.68	24
Shibaura Engineering Works	20	20	56.4
Hokkaido Colliery & Steamship	70	43.68	19.7 ^a
Nippon Steel Works	30	30	12.5
Dai Nippon Celluloid	10	10	27.9
Kanegahuchi Cotton Spinning	60	28.6	5.3
Onoda Cement	31	21.82	9.6
Denki Kagaku Kogyo	18	17.5	6.9
Mitsukoshi Department Store	15	15	0

Source: Shogyo Koshinsho (1930), Morikawa (1992)

a. Also 20.7% owned by Mitsui Mining.

Table 5. Industrial Diversification of the Ten Major Zaibatsu in 1945, in Millions of Yen

<i>Zaibatsu</i>	Industry				<i>Zaibatsu</i> Total	<i>Zaibatsu</i> (% of economy)
	Finance	Heavy Industry	Light Industry	Other		
Mitsui	169	2,214	274	404	3,061	9.4
Mitsubishi	160	1,866	73	605	2,704	8.3
Sumitomo	65	1,469	29	102	1,667	5.2
Yasuda	209	119	117	64	510	1.6
Nissan(Aikawa)	5	1,558	103	38	1,703	5.3
Asano	0	419	89	76	594	1.8
Furukawa	4	479	3	4	490	1.5
Okura	6	218	34	56	314	1.0
Nakajima	0	188	24	0.768	213	0.6
Nomura	26	50	27	62	165	0.5
Top ten zaibatsu total	644	8,582	773	1,412	11,420	35.0
Economy total	1,215	17,513	4,600	9,108	32,437	100.0
Top ten zaibatsu (% of economy)	53	49	17	16	35	

Source: Holding Co. Liquidation Committee (HCLC), Japanese Zaibatsu and its Dissolution, cited in Yasuoka (1976, 34-35).

Table 6. Kuhara Mining Company: the composition of shareholders, 1918-1927

	June 1918	June 1920	May 1927
Total number of outstanding shares	1,500,000	1,500,000	1,500,000
Total number of shareholders	9,761	13,842	14,858
Average number of shares held per shareholder	153.7	108.0	100.9
<i>Shareholders with 5000 or more shares</i>			
Total number of shareholders	31	20	18
Share ownership (%)	67.3	51.4	44.3
Average number of shares held per shareholder	32,566.5	38,550.0	36,916.7
<i>Shareholders with fewer than 500 shares</i>			
Total number of shareholders	9,544	13,649	14,739
Share ownership (%)	28.5	35.8	39.6
Average number of shares held per shareholder	44.7	40.0	40.3
<i>Kuhara family and relatives</i>	45.6%	45.1%	37.3%

Source: Udagawa (1976)

Table 7. Rankings of the Top Zaibatsu as of Midyear 1937 by Number of Firms and Paid-in Capital

Zaibatsu	Number of Group Firms	Total Paid-in Capital
1. Mitsui	101	¥1,177,200,000
2. Mitsubishi	73	¥848,204,000
3. Nissan	77	¥473,632,000
4. Sumitomo	34	¥383,800,000
5. Yasuda	44	¥263,866,000
6. Asano	50	¥236,261,000
7. Nichitsu	26	¥197,100,000
8. Mori	20	¥141,996,000
9. Okura	51	¥133,845,000
10. Furukawa	19	¥101,994,000

Source: Yasuoka (1976)

Table 8. Suzuki Trading Company debt to the Bank of Taiwan (yen)

Year	New Debt	Total Debt
1920	---	80,811,300
1921	42,907,587	123,718,887
1922	55,317,426	179,036,313
1923	47,869,445	226,905,758
1924	49,145,662	276,051,420
1925	37,223,293	313,274,713
1926	43,581,754	356,856,470
1927	22,002,099	378,858,569

Source: Fouraker (2002, p.8)

Table 9. Six Largest Zaibatsu Banks' Deposits and Loans, 1931-1937

Date	Deposits (Loans) in million yen					
	Mitsui	Mitsubishi	Daiichi	Sumitomo	Yasuda	Sanwa
June 1931	710 (413)	647 (313)	659 (371)	684 (402)	610 (438)	---
June 1932	620 (441)	616 (344)	648 (394)	679 (423)	607 (460)	---
Dec. 1932	687 (429)	640 (317)	703 (399)	735 (447)	664 (479)	---
June 1933	696 (386)	705 (324)	769 (406)	815 (472)	730 (507)	---
Dec. 1933	715 (409)	661 (274)	787 (418)	798 (461)	740 (511)	1025 (519)
June 1934	759 (366)	696 (259)	816 (409)	827 (426)	800 (519)	1063 (489)
Dec. 1934	748 (383)	722 (265)	852 (422)	872 (466)	807 (548)	1077 (496)
June 1935	759 (380)	752 (265)	868 (432)	886 (471)	818 (571)	1080 (494)
Dec. 1935	796 (451)	730 (294)	913 (448)	952 (522)	832 (578)	1114 (494)
June 1936	824 (437)	805 (341)	940 (450)	970 (543)	891 (616)	1151 (526)
Dec. 1936	856 (518)	810 (370)	972 (545)	1017 (618)	928 (679)	1197 (532)
June 1937	904 (531)	903 (441)	1054 (657)	1093 (691)	1023 (744)	1263 (577)

Source: Mitsubishi Bank (1954)

Table 10. Japanese Production Output by Industry, 1929 and 1942 (in 1,000 yen)

Rank	1929		1942	
	Industry	Output	Industry	Output
1	raw silk	795,599	iron and steel	2,626,512
2	cotton yarn	678,466	navy and army arsenals	2,294,100
3	electric power	658,316	aircraft	1,930,400
4	broad cotton fabrics	526,096	guns, bullets and weapons	1,915,242
5	national railways	517,795	national railways	1,441,921
6	Japanese sake	302,120	electric power	1,375,943
7	coal mining	245,762	coal mining	1,077,769
8	private railways	232,254	shipbuilding	858,377
9	military ordinance	208,537	industrial chemicals	785,169
10	state-run steel mills	189,551	special steel	753,170
11	printing	186,304	electrical machinery	633,292
12	wool fabrics	176,896	medicine	630,800
13	steel products	173,833	private railways	560,337
14	sugar	158,125	lumber	551,600
15	flour milling	134,895	pig iron	502,631
16	chemical fertilizers	132,711	raw silk	463,098
17	broad silk fabrics	129,516	metal machine tools	449,442
18	lumber	112,170	coke	421,210
19	non-ferrous metal mining	108,204	cotton yarn	327,520
20	copper	108,166	tools	323,895

Source: Yamazaki (1988, p.13)

Table 11. Group Affiliations of the Fifty Most Firms with Highest Net Profits

	1929	1943	1955	1973	1984
State controlled firms^a	9	20	2	2	3
Firms	5	14			
Banks	4	6			
Foreign controlled firms	0	0	0	1	1
Zaibatsu total	16	25	23	23	19
“Old” zaibatsu total	16	17	-	-	-
Mitsui	7	7	3	4	3
Mitsubishi	5	6	6	7	6
Sumitomo	2	1	2	3	2
Yasuda	1	1	-	-	-
Furukawa	-	1	-	-	-
Asano	1	1	-	-	-
“New” zaibatsu total	-	8	-	-	-
Nissan	-	5	-	-	-
Nichitsu	-	2	-	-	-
Nisso	-	1	-	-	-
Keiretsu total^d	-	-	23	23	19
“Old” keiertsu total	-	-	11	14	11
“New” keiertsu total	-	-	12	9	8
Fuji	-	-	4	5	3
Sanwa	-	-	5	2	3
Daiichi-Kangyo	-	-	3	2	2
Independent	29	14	25	24	27

Source: Yamazaki (1988, p.17)

- In 1943 three Manchurian firms are double-counted to be affiliated with both the government and the Nissan Zaibatsu.
- Mitsui, Mitsubishi, Sumitomo, Yasuda, Furukawa, and Asano.
- Nissan, Nichitsu, and Nisso.
- For the post WWII years firms with two keiretsu affiliations, such as Hitachi, Ltd. and Nippon Express, are counted as independent.

Table 12. Number of First-Tier Subsidiaries and Stockholding Ratios (1928)

	Number of first-tier subsidiaries	Stockholding ratio: shares held by family and headquarters (%)	Stockholding ratio: shares held by members of same Zaibatsu (%)
Mitsui	6	90.2	90.6
Mitsubishi	10	69.4	77.6
Sumitomo	13	79.1	80.5
Yasuda	12	31.7	48.1
Furukawa	4	72.8	89.4
Asano	6	50.8	---
Okura	20	84.7	92.7

Source: Takahashi (1930)

Table 13. Shareholding by Large Block Holders

	1919	1936
Number of sample firms	379	477
Holdings by large shareholders		
No. of large shareholders (%)	0.59	0.36
Shares held by large shareholders (%)	21.0	37.4
Shares held by other types of shareholders		
Individuals (%)	15.5	5.9
Banks (%)	0.8	2.1
Insurance/securities/trust firms (%) ^a	0.5	4.8
Corporations (%)	3.1	20.7 ^b
Average number of shareholders/firm	2,040	3,589
Average number of shares held/shareholder		
12 largest shareholders	4,644	17,434
Other	103	95

Source: Takeda (1995)

^a insurance firms, securities firms, trust banks and firms

^b Holding firms owned 53.8% of these shares owned by corporations.

Table 14. Changes in Zaibatsu Structure, 1929 to 1943**Panel A. First tier subsidiaries ownership structure**

<i>Subsidiary</i>	<i>Number of shareholders of</i>		<i>Combined stake of other zaibatsu companies (%)</i>	
	<i>1929</i>	<i>1943</i>	<i>1929</i>	<i>1943</i>
Mitsui Bussan	31	15,155	100	75.8
Mitsui Mining	26	6912	100	84.8
Mitsubishi Shipbuilding	23	6912	100	40.9
Mitsubishi Shoji	20	5940	100	47.2
Sumitomo Steel	14	7557	100	41.4

Panel B. First tier subsidiaries that experienced mergers

<i>Subsidiary</i>	<i>Number of shareholders of</i>		<i>Combined stake of other zaibatsu companies (%)</i>	
	<i>1929</i>	<i>1943</i>	<i>1929</i>	<i>1943</i>
Oji Paper CO.	6000	23516	25.2	3.5
Toshiba Electric	211	5885	58.4	15.1

Panel C. Average Percentage Ownership of Group Companies by Other Zaibatsu Companies

	1929	1943
Mitsui	51	31.7
Mitsubishi	52.5	35.2
Sumitomo	52.9	32.8
Yasuda	46.4	58.3
Furukawa	65.2	44.5
Asano	19.8	21.5

Source: Yamazaki (1989)

Table 15. Composition of 10 Largest Stockholders of Independent Enterprises: 1929 and 1943

	1929				1943				
	<i>corporations</i>	<i>financial institutions</i>	<i>family holding companies</i>	<i>individuals</i>	<i>corporations</i>	<i>financial institutions</i>	<i>family holding companies</i>	<i>individuals</i>	
Toyo Spinning	3.1%	0.8	1.1	8.0	Toyo Spinning (merged)	8.2%	2.8	1.1	3.5
Osaka Godo Spinning	6.2	2.3	1.9	7.1	Dai Nippon Spinning	7.6	1.8	1.0	3.1
Dai Nippon Spinning	5.5	---	1.1	7.0	Sanwa Bank (merged)	19.2	4.9	14.2	4.7
Sanjushi Bank	4.6	0.9	2.4	6.9	Dai Nippon Sugar Mfg.	22.1	17.4	4.7	1.6
Yamaguchi Bank	36.2	1.0	33.3	10.7	dai Nippon Breweries	13.8	10.8	1.2	---
Kamoike Bank	85.6	---	82.9	13.3	Nippon Oil	9.4	2.9	5.6	9.5
Dai Nippon Sugar Mfg.	6.9	2.8	2.9	6.0	Kobe Steel Works	38.7	27.2	---	---
Dai Nippon Breweries	10.8	2.1	8.7	3.0	Kawasaki Heavy Ind.	29.5	4.2	2.5	---
Nippon Oil	9.1	1.9	7.2	7.4	Osaka Mercantile Steamship	5.8	1.5	0.4	1.2
Kobe Steel Works	---	---	---	---	Meguro Kamata Electric Railway	25.5	13.8	2.9	2.2
Kawasaki Shipbuilding	17.0	---	15.9	15.2					
Osaka Mercantile Steamship	3.1	---	1.5	4.4					
Meguro Kamata Electric Railway	28.1	23.5	4.5	30.4					

Source: Yamazaki (1988, p.38)

Table 16. Ownership Structures of Top Four *Zaibatsu* in 1945

	Firms	Shares	Percent Stakes of <i>Zaibatsu</i> Parties			
			Family	Apex firm	First tier firms	Total
Mitsui	1	10,000	63.6	---	0.9	64.5
First tier firms	10	17,979	9.5	53.9	11.9	75.3
Second tier firms	13	9,038	0.0	35.9	17.2	53.1
Mitsubishi	1	4,800	47.8	---	10.8	58.6
First tier firms	11	41,234	1.4	28.9	15.3	47.5
Second tier firms	16	8,053	0.2	18.2	40.3	58.7
Sumitomo	1	600	83.3	---	16.7	100.0
First tier firms	17	34,312	8.4	19.5	16.6	44.5
Second tier firms	6	5,325	0.5	12.7	30.7	43.9
Yasuda	1	300	100.0	---	---	100
First tier firms	20	9,469	3.5	24.3	17.8	45.6
Second tier firms	12	3,860	0.1	16.9	15.3	32.3

Source: HCLC (1950), Ministry of Finance (1982)

Table 17. New Share Issues, 1948-1953

	1948	1949	1950	1951	1952	1953
A Number of new shares issued	50,094	78,718	39,192	83,644	123,336	91,569
B Percent of (A) issued to finance restructuring	30.5	17.0	5.6	0.3	---	---
C Shares released by HCLC in dissolving <i>zaibatsu</i>	40,317	39,711	854	996	---	---
D Average price per share	---	128.85	74.00	93.8	124.06	156.05
E Stock return (%)	4.02	4.65	6.61	7.99	8.02	7.96
F Excess return above interest rate	-4.80	-4.96	-2.47	-1.22	-1.03	-0.85

Notes: Figures in (A), (C) and (D) are for 1,000 shares.

Source: Miyajima (1994)

Table 18. Tokyo Stock Exchange Price Index

	1949	1950	1951	1952
Low	98.50 (December)	85.25 (July)	102.20 (January)	167.80 (January)
High	176.88 (September)	114.99 (August)	170.20 (October)	370.56 (December)

Table 19. Price-capital stock and price-equity ratios for Mitsui, Mitsubishi and Sumitomo *zaibatsu* firms, 1949 - 1953

		1949	1950	1951	1952	1953
Mitsubishi	W/K	1.61	0.46	0.39	0.72	1.00
	W/E	2.43	0.68	0.45	0.75	0.97
Sumitomo	W/K	1.96	0.34	0.35	0.78	0.86
	W/E	3.22	0.34	0.31	0.68	0.77
Mitsui	W/K	0.91	0.27	0.27	0.45	0.57
	W/E	1.71	0.34	0.44	0.75	0.80

Notes: W=average share price; K=fixed capital stock (book value); E=stockholders' equity set equal to [total assets (book value) - total debt (book value)]. The numbers of firms included for Mitsubishi, Sumitomo and Mitsui groups are 15, 8 and 12, respectively. Source: Miyajima (1994)

Figure 1. A Stylized Representation of a Zaibatsu Control Pyramid

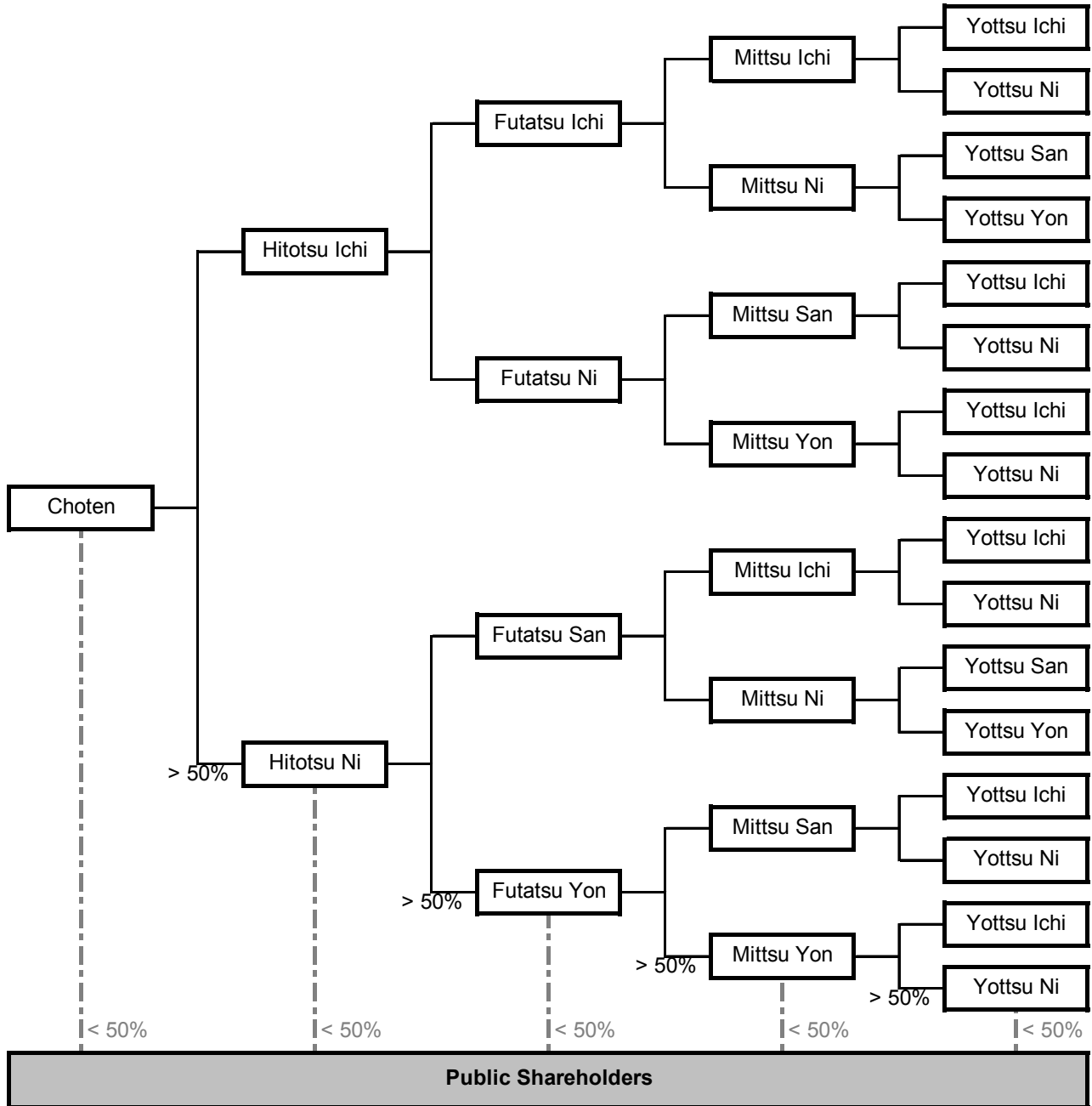


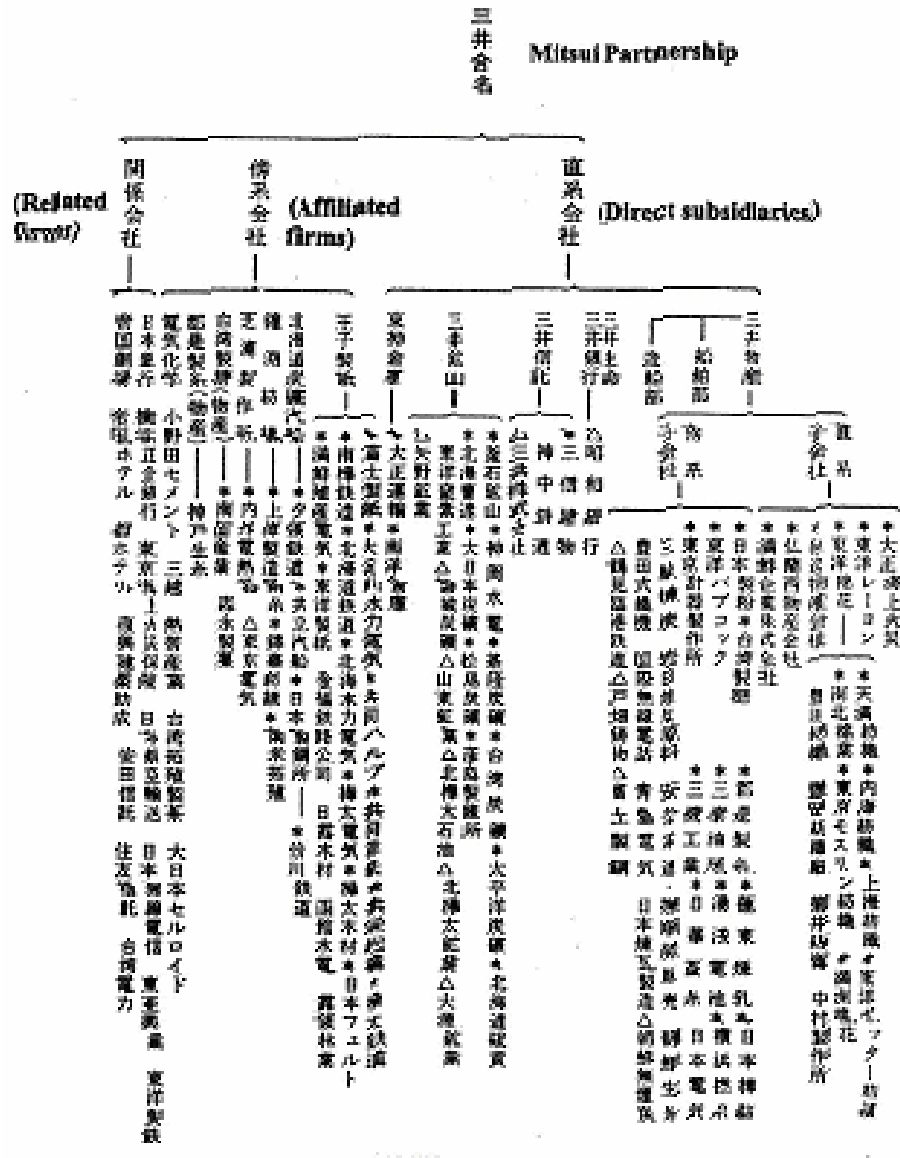
Figure 2. The Structure of the Mitsui Zaibatsu in 1928

		Paid-Up Capital (¥1,000s)	Mitsui Control (%)	
Mitsui Gomei (Headquarters)	First-rank subsidiaries	Mitsui Bussan	100,000	100.0
		Mitsui Life Insurance	500	50.0
		Mitsui Bank	60,000	67.5
		Mitsui Trust Bank	7,500	47.5
		Mitsui Mining	62,500	100.0
		Tochin Warehousing	11,500	100.0
		Subtotal and average control stake	242,000	90.2
	Second-rank subsidiaries	Oi Paper Manufacturing	48,683	24.0
		Hokkaido Colliery & Steamship	43,674	19.7
		Kanagafuchi Cotton Spinning	26,596	5.4
		Shibaura Electric Machine Manufacturing	20,000	56.3
		Taiwan Sugar Refining	38,100	6.1
		Gunze Silk Reeling	11,717	3.9
		Electrical Chemical	17,500	8.9
		Chode Cement Manufacturing	18,600	9.9
		Mitsukoshi Department Stores	11,000	
		Tropical Industries	5,525	39.1
		Taiwan Colonization & Tea Manufacturing	-	-
		Dai Nippon Celluloid Manufacturing	10,000	29.9
Subtotal and average control stake	253,595	17.3		

Source:

Figure 3. Record of the Structure of the Mitsui Zaibatsu in 1930

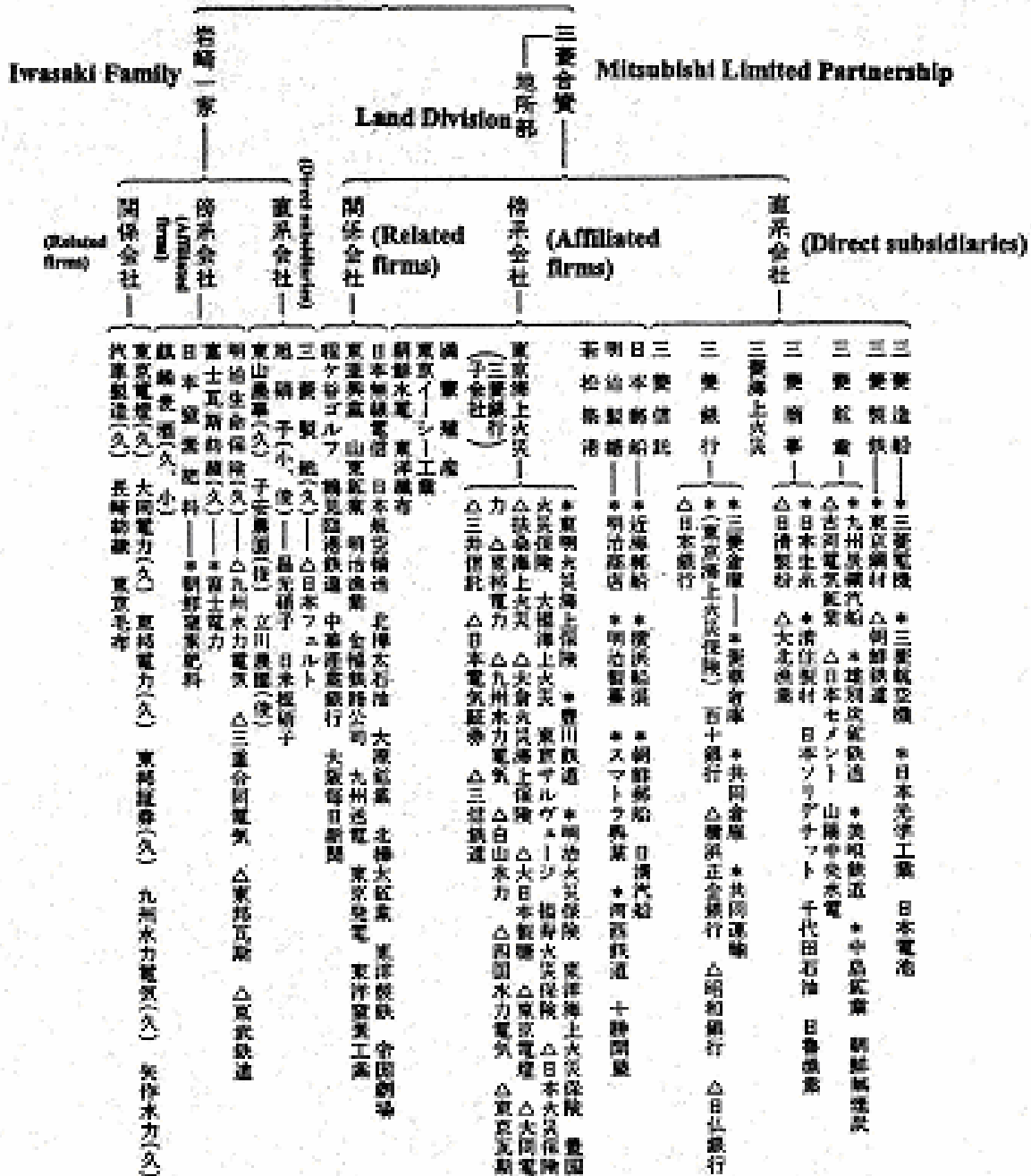
Mitsui's first-tier direct subsidiaries were Mitsui Bussan, Mitsui Life Insurance, Mitsui Bank, Mitsui Trust Bank, Mitsui Mining and Toshin Warehousing (see also Table 2). Mitsui Partnership owned and controlled fully its first-tier direct subsidiaries but did not necessarily fully control or own affiliated or related firms. More specifically, Mitsui Partnership controlled the firms with asterisks fully and the firms with no asterisks or triangles predominantly but not fully. Mitsui Partnership's control was weakest over the firms with triangles.



Source: Takahashi (1930, p.50)

Figure 5. Record of the Structure of the Mitsubishi Zaibatsu in 1930

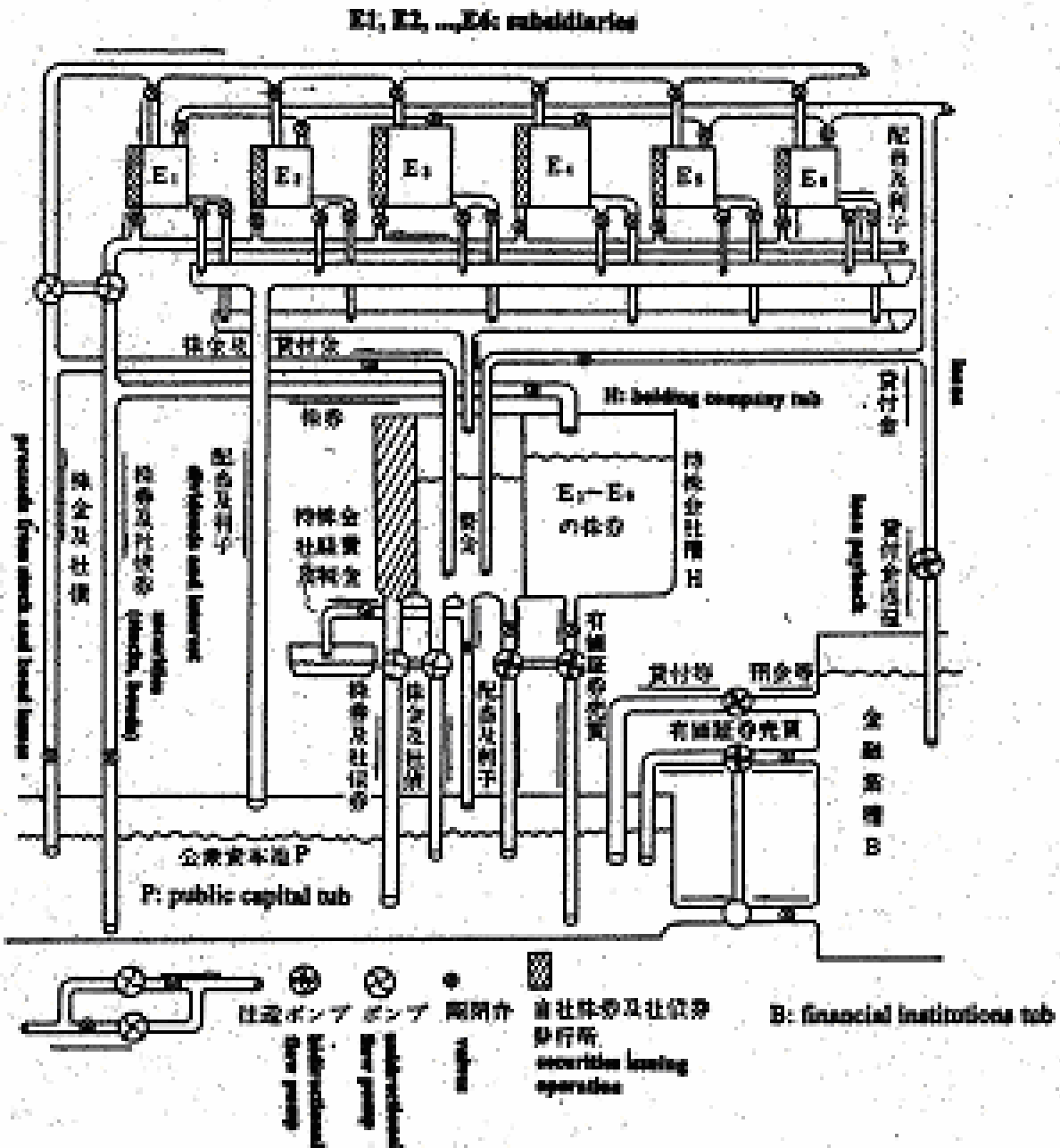
Mitsubishi Limited Partnership's first-tier direct subsidiaries were Mitsubishi Shipbuilding, Mitsubishi Steel, Mitsubishi Mining, Mitsubishi Corporation, Mitsubishi Marine and Fire Insurance, Mitsubishi Bank and Mitsubishi Trust Bank. Mitsubishi Limited Partnership owned and controlled fully its first-tier direct subsidiaries but did not necessarily fully control or own affiliated or related firms. More specifically, Mitsubishi Limited Partnership controlled the firms with asterisks fully and the firms with no asterisks or triangles predominantly but not fully. Mitsubishi Limited Partnership's control was weakest over the firms with triangles. The same ownership and control relationships apply to the firms under Iwasaki Family's control.



Source: Takahashi (1930, pp.108-109)

Figure 6. Aikawa's Vision for Using Capital Markets to Finance Nippon Sangyo (Nissan)

Unidirectional flow pumps set the one-way flows of funds corresponding to, for example, payments of interest and dividends, and the proceeds from new issues of securities such as bonds and shares. Bidirectional flow pumps set the two-way flows of funds corresponding, for example, to the proceeds from and the repayments of loans, and the purchasing and selling transactions of securities. Aikawa's vision was that a holding company (H) and its subsidiary firms (E1, E2, ..., E6) could grow using primarily public capital (P) and financial institutions (B) while enriching the capital base of the holding company, represented by B, the holding company tub.



Source: Aikawa (1934)

Figure 7. Representative Local Zaibatsu Families

There were many family-based zaibatsu groups in many localities in Japan before World War II. The scale of their business operations and geographic coverage was much smaller than that of the major zaibatsu groups such as Mitsui, Sumitomo and Mitsubishi. Nevertheless these local zaibatsu groups often organized their companies in pyramidal structures as the major zaibatsu groups did. Some of these local zaibatsu companies survived the World War II and still exist today. For example, Kikkoman (Mogi Zaibatsu in Chiba), Matsuzakaya Department Store (Ito Zaibatsu in Nagoya), Kurashiki Textile (Ohara Zaibatsu in Okayama) and Yasukawa Electric (Yasukawa Zaibatsu in Fukuoka) are shown here.

Name	Location	Holding Co. (capital in 1938 yen)	Family members/relatives	Business	Where they invested
地方資本家 (代表者)	所在地	主 持 資 本 (額)	家 族 成 員 (親 屬)	業 務	投 資 先
堀 野 重 吉	北海道小樽		重吉、源吉 (重吉の弟)	醸造 製糖 製紙 北門貯蓄銀行	南洋興業 北海道電力 興業銀行 北門銀行
堀 野 重 平	北海道厚別	堀野重吉 (400万円)	重平、重吉 (同族長)、重吉の同族長次男、重吉の次男、重平 (重吉の次子)	製糖 製紙 製糖 製糖	第十二銀行 興業貯蓄銀行
岡 本 七 左 衛 門	千葉県船橋	牛込誠三郎	七左衛門、高橋貞吉 (七左衛門の次男)	製糖 製糖	興業銀行 野田興業銀行 野田銀行
中 野 重 次郎 (第一男)	千葉県千葉	中野重吉 (2,000万円)	重次郎、重吉 (第一男)、重吉 (重次郎の弟)、重吉 (第一女次男)	中野重吉 (製糖) 製糖 製糖	日本銀行 興業銀行 興業銀行
岡 本 重 三郎	千葉県千葉	岡本重吉	重三郎、重吉 (同族長)、重吉 (同族長)	製糖 製糖	千葉銀行 北越電力 三北電力
片 岡 重 次郎 (二代目)	千葉県千葉	片岡重吉	重次郎 (二代目長男 - 初代)、重吉 (初代 - 七左衛門の次男)、重吉 (初代 - 重吉の次男)、重吉 (初代 - 重吉の次男)	片岡重吉 (製糖) 製糖 製糖 製糖	北越電力 三北電力
岡 本 重 平 (二代目)	千葉県千葉			製糖 製糖 製糖 製糖	日本銀行 三十三銀行 製糖 製糖
中 野 重 次郎 (二代目)	千葉県千葉		重次郎、重吉 (同族長)、重吉、重吉 (重吉の次男)	中野重吉 (製糖) 製糖 製糖 製糖	日本銀行 興業銀行
伊 藤 重 次郎 (二代目)	千葉県千葉	伊藤重吉 (2,000万円)	重次郎 (同族長)、重吉 (同族長)	製糖 製糖 製糖 製糖	興業銀行 日本銀行 興業銀行 興業銀行
岡 本 重 三郎 (二代目)	千葉県千葉		重三郎	製糖 製糖 製糖 製糖	三十三銀行 興業銀行 興業銀行 興業銀行
八 木 重 吉	千葉県千葉	八木重吉 (2,000万円)	重吉、重吉 (同族長)、重吉 (同族長)	製糖 製糖 製糖 製糖	興業銀行 興業銀行 興業銀行 興業銀行
伊 藤 重 次郎 (三代目)	千葉県千葉	伊藤重吉 (2,000万円)	重次郎、重吉 (同族長)、重吉 (同族長)	製糖 製糖 製糖 製糖	三十三銀行 興業銀行 興業銀行 興業銀行
大 岡 重 三郎	千葉県千葉		重三郎	製糖 製糖 製糖 製糖	興業銀行 興業銀行 興業銀行 興業銀行
重 吉 重 吉	千葉県千葉	重吉重吉 (2,000万円)	重吉、重吉 (同族長) (第一男次男)、重吉 (同族長) (同族長)、重吉 (同族長) (同族長)	製糖 製糖 製糖 製糖	興業銀行 興業銀行 興業銀行 興業銀行
岡 本 重 吉	千葉県千葉	岡本重吉 (2,000万円)	重吉 (土佐三郎)、重吉 (土佐三郎の次男)、重吉 (土佐三郎の次男)、重吉 (土佐三郎の次男)	製糖 製糖 製糖 製糖	中央大興業 興業銀行
岡 本 重 吉	千葉県千葉		重吉、重吉 (同族長)、重吉 (同族長)	製糖 製糖 製糖 製糖	九段電力 興業銀行 興業銀行 興業銀行

Source: Morikawa (1976)

Figure 8. Concordance of Analyses of the Structure of the Suzuki Zaibatsu in the 1920s

The 76 firms listed here were established between 1878 and 1926, and were generally considered members of the Suzuki zaibatsu. Analysts before and after World War II differ on the precise control relationships the Suzuki Shoten had with these Suzuki companies. Columns A - G and I - K compare the estimated control relationships published by ten different analysts and securities firms between 1923 and 1928. The codes are:

- : directly owned by Suzuki
- : majority-controlled
- : minority-controlled
- Q: fully-controlled.
- : spin-offs
- △: affiliated (mostly for investment purposes)
- x: closely-related with little control

Column H compares estimates of the chances of independent survival for former Suzuki companies, published in a business magazine after Suzuki Zaibatsu's collapse in April 1927. They coding is: +: very good prospect, no impact from the collapse

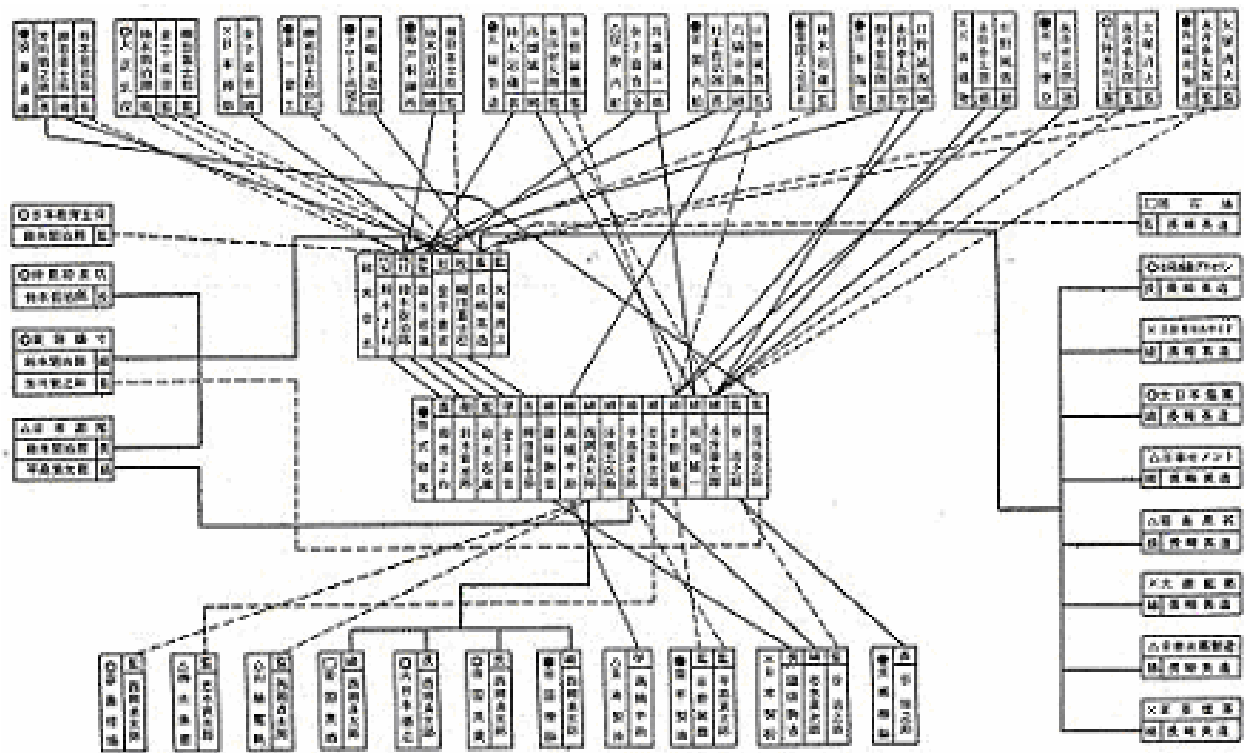
- : no possibility for survival
- !: survival possible depending on restructuring efforts.

Company name	Public capital (million yen)	Date of establishment	Location	A	B	C	D	E	F	G	H	I	J	K
1 第六十五銀行	100,000	1911.11	神戸	△										
2 興業銀行	110,000	1912	大阪	△										
3 日本セメント	100	1913	東京	△										
4 日本生命保険	9,000,000	1910	東京	○										
5 日本郵船	10,000,000	1910	東京	○										
6 大日本電産	410,000	1911	東京	○										
7 神戸製鋼所	100,000	1910	神戸	○										
8 東洋炭田	1,000,000	1910	東京	△										
9 東洋炭田	1,000,000	1910	東京	△										
10 東洋炭田	1,000,000	1910	東京	△										
11 日本製鋼所	100,000	1910	神戸	○										
12 東洋炭田	1,000,000	1910	東京	△										
13 東洋炭田	1,000,000	1910	東京	△										
14 東洋炭田	1,000,000	1910	東京	△										
15 東洋炭田	1,000,000	1910	東京	△										
16 東洋炭田	1,000,000	1910	東京	△										
17 東洋炭田	1,000,000	1910	東京	△										
18 東洋炭田	1,000,000	1910	東京	△										
19 東洋炭田	1,000,000	1910	東京	△										
20 東洋炭田	1,000,000	1910	東京	△										
21 東洋炭田	1,000,000	1910	東京	△										
22 東洋炭田	1,000,000	1910	東京	△										
23 東洋炭田	1,000,000	1910	東京	△										
24 東洋炭田	1,000,000	1910	東京	△										
25 東洋炭田	1,000,000	1910	東京	△										
26 東洋炭田	1,000,000	1910	東京	△										
27 東洋炭田	1,000,000	1910	東京	△										
28 東洋炭田	1,000,000	1910	東京	△										
29 東洋炭田	1,000,000	1910	東京	△										
30 東洋炭田	1,000,000	1910	東京	△										
31 東洋炭田	1,000,000	1910	東京	△										
32 東洋炭田	1,000,000	1910	東京	△										
33 東洋炭田	1,000,000	1910	東京	△										
34 東洋炭田	1,000,000	1910	東京	△										
35 東洋炭田	1,000,000	1910	東京	△										
36 東洋炭田	1,000,000	1910	東京	△										
37 東洋炭田	1,000,000	1910	東京	△										
38 東洋炭田	1,000,000	1910	東京	△										
39 東洋炭田	1,000,000	1910	東京	△										
40 東洋炭田	1,000,000	1910	東京	△										
41 東洋炭田	1,000,000	1910	東京	△										
42 東洋炭田	1,000,000	1910	東京	△										
43 東洋炭田	1,000,000	1910	東京	△										
44 東洋炭田	1,000,000	1910	東京	△										
45 東洋炭田	1,000,000	1910	東京	△										
46 東洋炭田	1,000,000	1910	東京	△										
47 東洋炭田	1,000,000	1910	東京	△										
48 東洋炭田	1,000,000	1910	東京	△										
49 東洋炭田	1,000,000	1910	東京	△										
50 東洋炭田	1,000,000	1910	東京	△										
51 東洋炭田	1,000,000	1910	東京	△										
52 東洋炭田	1,000,000	1910	東京	△										
53 東洋炭田	1,000,000	1910	東京	△										
54 東洋炭田	1,000,000	1910	東京	△										
55 東洋炭田	1,000,000	1910	東京	△										
56 東洋炭田	1,000,000	1910	東京	△										
57 東洋炭田	1,000,000	1910	東京	△										
58 東洋炭田	1,000,000	1910	東京	△										
59 東洋炭田	1,000,000	1910	東京	△										
60 東洋炭田	1,000,000	1910	東京	△										
61 東洋炭田	1,000,000	1910	東京	△										
62 東洋炭田	1,000,000	1910	東京	△										
63 東洋炭田	1,000,000	1910	東京	△										
64 東洋炭田	1,000,000	1910	東京	△										
65 東洋炭田	1,000,000	1910	東京	△										
66 東洋炭田	1,000,000	1910	東京	△										
67 東洋炭田	1,000,000	1910	東京	△										
68 東洋炭田	1,000,000	1910	東京	△										
69 東洋炭田	1,000,000	1910	東京	△										
70 東洋炭田	1,000,000	1910	東京	△										
71 東洋炭田	1,000,000	1910	東京	△										
72 東洋炭田	1,000,000	1910	東京	△										
73 東洋炭田	1,000,000	1910	東京	△										
74 東洋炭田	1,000,000	1910	東京	△										
75 東洋炭田	1,000,000	1910	東京	△										
76 東洋炭田	1,000,000	1910	東京	△										

Source: Katsura (1976)

Figure 9. Pattern of Board Interlocks in the Suzuki Zaibatsu in 1926

Key family members and managers served many Suzuki companies as CEOs and directors



Source: Katsura (1976)

Figure 10. How Cross Holdings Affect the Value of Shares Upon Zaibatsu Dissolution

Panel A. Prior to Dissolution

		Apex firm
Firm A		
Assets:	¥100 million	Real assets
	¥100 million	Shares of B
	¥200 million	Total
Income:	¥10 million	Operating Income
	¥10 million	Dividends from B
	¥20 million	Total
Shares:	¥100	Price per share
	¥10	Dividend per share
	1 million	Owned by family
	1 million	Owned by Firm B
	2 million	Total
		Publicly traded subsidiary
Firm B		
Assets:	¥100 million	Real assets
	¥100 million	Shares of A
	¥200 million	Total
Income:	¥10 million	Operating Income
	¥10 million	Dividends from A
	¥20 million	Total
Shares:	¥100	Price per share
	¥10	Dividend per share
	1 million	Owned by public
	1 million	Owned by Firm A
	2 million	Total
Subsidiary also owns shares in apex firm		

Panel B, After Dissolution

Firm A			Firm B		
Assets:	¥100 million	Real assets	Assets:	¥100 million	Real assets
	¥100 million	Total		¥100 million	Total
Income:	¥10 million	Operating Income	Income:	¥10 million	Operating Income
	¥10 million	Total		¥10 million	Total
Shares:	¥50	Price per share	Shares:	¥50	Price per share
	¥5	Dividend per share		¥5	Dividend per share
	2 million	Owned by public		2 million	Owned by public

Figure 11. A Stylized Diagram of a Post-World War II Horizontal *Keiretsu*

Large circles represent core member firms of the *keiretsu*, which hold small blocks of stock in each other that collectively sum to control blocks. Each core *keiretsu* firm holds control blocks of lesser *keiretsu* member firms, indicated by small circles; and many of these sit at the apex of their own pyramid of such firms. Only five core firms and one nested pyramid are shown for simplicity. Actual large horizontal *keiretsu* often contain many more core firms, each with one or more nested pyramids.

