Agency Capitalism:  
The Logic of Managed Competition in Japan

by

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ABSTRACT

This dissertation investigates the nature of the Japanese
corporate economy. The key research question of this study is:
Why is market competition managed in Japan? I argue that managed
competition -- which is specifically defined as "opportunity
sharing" here -- in Japan can be best explained by two
conditions. First, Japanese corporate decision makers are
autonomous to the point that they, as agents, are virtually
unfettered by their principals, that is, the owners (the
condition of "managerial sovereignty"). Another condition for
managed competition in Japan is that Japanese managers not only
are empowered but also share the norm of inter-firm cooperation
that functions as the framework for decision making (the
condition of "norm conformity").

The Japanese political economy characterized by these two
conditions is dubbed 'agency capitalism' in this study. Agency
capitalism as the logic of managed competition is elaborated upon
in terms of its historical development, particularly since the
Sino-Japanese War of 1937, which is interpreted as a turning
point in Japan's political economy history -- from a liberal to a
mobilizational economy.

The argument of agency capitalism is tested in contrast with
other major explanations of managed competition, that is, profit
maximization, state activism, and socio-cultural orientation.
From the historical-contingency perspective, the hypothesis is
tested with two case studies of collaborative research and
development among competing aerospace firms and cooperative
financing among rival commercial banks. The hypothesis testing
is carried out through the survey of historical documents,
interviews, and questionnaire surveys.

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CHAPTER ONE
INTRODUCTION AND OVERVIEW

I. THE PROBLEM AND ARGUMENT IN BRIEF

This dissertation investigates the nature of the Japanese corporate economy. The term 'corporate economy' here conforms to a standard definition: "a system in which a major part of the production side of the economy is organized by large limited-liability corporations whose shares are traded on organized stock markets." The corporate economy of Japan can be approached from many different perspectives, and there are already many economic and managerial studies on specific issues of corporate Japan. By virtue of the "economic miracle" achieved in the post-war period, the Japanese economy has received much attention in social science research. Despite of this vast body of economic and managerial literature, however, our understanding of the corporate economy in Japan is seriously limited and misguided.

The limit of our understanding stems largely from the dominance of a law-like economic assumption that the 'large limited-liability corporation' is a coherent decision maker and implementor that pursues interest maximization on behalf of its owners. This unyielding assumption provides a robust basis for economic and managerial studies that dominate social science

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3
research regarding the nature and behavior of corporations and the corporate economy. Of course, there are studies that recognize the power of government intervention and other non-economic factors as determinants of corporate decisions and behavior, and this line of thinking is particularly strong in regard to Asian economies where the presence of government in the society is relatively large. Even in this conceptualization, however, the corporation is still a coherent and rational actor who adapts to non-market forces in an effort to maximize its interests.²

This study offers an alternative view of the nature of the corporation and the corporate economy based upon the case study of Japan. The goal of this study is to put the central actor of the corporate economy, the modern corporation, in a broader historical perspective and bring light to its socio-political nature. One rationale for a new interpretation of the nature of the corporate economy in Japan lies in the widely perceived uniqueness of the capitalism à la Japan in general and the Japanese corporation in particular.¹ Perhaps, the word

²The definition of the corporation here is again one of standard economics; it refers to "a legal and contractual mechanism for owning a business, using capital from investors that will be managed on their behalf by directors and officers" (The New Palgrave: A Dictionary of Economics, Ibid.).

¹There are some economic and managerial studies of the Japanese firm (or "J-firm") which are anchored on their perceived uniqueness in comparison to its Western counterparts. The uniqueness in these studies is more about the organization and behavior of the corporation than the ways the "J-firm" exists and relates to the society in which it is embedded.
'uniqueness' is not an appropriate one here because this study is not mainly concerned with finding the peculiarities of the Japanese institutions and practices. There are two major reasons that the recognition of the differences between the Japanese institutions and practices and those of other advanced economies goes beyond the mere concern with peculiarities. A first reason lies in the widely supported observation that advanced industrial economies are not equal in national economic performance and that the discrepancies may be due to the differences in the underlying dynamics of industrial capitalism in each country. If the ways in which firms exist and operate create inter-economy differences, the most important element determining these differences would be the relationships among corporations because these relationships tap the core problematic of political economy: the allocation of scarce resources among competing actors. The importance of inter-firm relationships can be attested by the fact that the law governing the relationship -- the antitrust or fair trade law -- is commonly called the 'economic constitution'.

A second reason that we need to examine the differences more closely is the serious disparity between the observed anomalies of the Japanese corporate economy and the research programs that seek to explain these anomalies. Accounts of the secrets of Japanese industries and business organizations, their superior performance, and their current working environment abound. The zeal to draw lessons or policy implications from such
descriptions often can lead to the preoccupation with technical issues of the Japanese business organizations. Such a preoccupation, a tendency which is particularly strong among liberal American scholars and their Japanese colleagues who adopt American research methods to explain the superiority of Japanese management, is apt to leave the impression that Japanese corporations are, in the end, universal agents of capitalism. I agree with an American law professor's critical re-evaluation of such reasoning:

We [Americans] do not understand Japanese business organization ... simply because first, its practices at several levels are anything but transparent, and secondly, too much of our media coverage and too much of our scholarly comment by generalists persists in seeing the Japanese "stock market," "corporate law," "free enterprise" and "democracy" as if these things are or should be fungible worldwide... The whole [Japanese corporatism] is highly organized with the immense concentration of ownership (normally assumed to be dispersed to the public and on sale at the exchange), actually residing within itself and the power accruing from it exercised by a small pool of elite corporate managers.⁴

For the reasons suggested above, this dissertation will focus on the inter-firm relationship with the assumption that that relationship will reflect the nature of the Japanese corporate economy. A central problem with the capitalism in Japan, as Henderson noted in terms of its "highly organized" nature, can be condensed into the relationships between the corporations. There is a growing belief that the ways in which Japanese corporations relate to one another -- or even the

⁴Henderson, 1995, pp. 899 and 911.
collective market order -- are not entirely determined by the economic grounds. The question raised here about the inter-firm relationship is not therefore entirely economic or managerial. It is actually a key political-economy question that concerns the allocation of resources among competing actors.

The kernel of this political-economy concern is the perception that market competition in Japan is not free but regulated or controlled. The typical, Western view of market competition in Japan from the organized market perspective is well summarized by Zysman:

The Japanese system, in my view, is one of controlled competition. There is every evidence of intense competition between firms but that competition seems to be directed and limited by state actions and by collaborative efforts of the firms and banks themselves ... In this setting, in which business collaborates as well as competes, the government appears as a marketplace actor, prodding here and promoting there.5

Yet the view that competition is controlled in Japan is only partially correct. Market competition in Japan is not merely directed or limited by government actions or collaborated efforts; there are concerted efforts and institutions established for the purpose of maintaining the "orderly markets" (chitsujō no aru shijō). In order to keep markets orderly, market competition is not simply regulated by supra-market actors such as the government; it is managed by market actors themselves.

The key research question of this study is therefore: Why is

market competition managed in Japan? In light of the central theme of this study, this question can be divided into two related questions: Why do private corporations agree to have their competitive relationships managed? What conditions make Japanese corporations agree to managed competition?

The answers to these questions can be found in the argument that managed competition in Japan can be best explained by two conditions. First, Japanese corporate decision makers are autonomous to the point that they, as agents, are virtually unfettered by their principals, that is, the owners. While Anglo-American corporations are, in the final analysis, fundamentally associated embodiments of the property rights of individual principals, Japanese corporations do not belong, in a true sense, to individual principals. Large Japanese firms basically belong to each other. Because ownership of large Japanese corporations belongs to one another, the power to make decisions belongs to employed agents. Even though Japanese corporate decision makers are autonomous and powerful in decision latitude, they are salaried employees with, at best, negligible claims on the ownership of their companies. In this sense, Japanese managers differ, both in disposition and status, from their Western counterparts. In short, a critical difference between Anglo-American and Japanese agents is that while the

― The question 'how is market competition managed in Japan?' is also important; it is, however, secondary because it can be answered only after the root causes are understood. Most of the questions of how competition is managed will be dealt with as the 'why' questions are answered.
former are accountable to their principals, the latter do not even have principals to whom to be accountable. I refer to this condition as "manager sovereignty." This notion will be elaborated upon in detail in the following chapters.

Hidden inside the paradox that market competition is managed is a surprising reality that in Japan the exercise of private property rights by individuals is either discouraged or unfavorably conditioned. The modern, joint-stock corporation culminates from individual property rights as the corporation is formed by the amalgamation of a multitude of individual investments. Even though individual investors do not participate in day-to-day management of such publicly listed corporations, in reality they are accounted for by their agents. 'Managerial capitalism,' a notion that corporate managers act as agents who are commissioned with professional managerial assignments by their principals in through the separation of ownership and management, does not deny the ultimate right of shareholders. Unlike Western individual shareholders who are able to influence corporate decision making by means of either "voice" or "exit," in Albert Hirschman's terms, Japanese individual shareholders have not even entered such realm of choice. In fact, many observers characterize Japanese shareholders as "fossilized."

Another condition for managed competition in Japan is that

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7Hirschman, 1970.

8The notion of fossilized shareholders in Japan as suggested by E. Sakakibara, Okumura, etc., see Chapter 4.
Japanese managers are not only empowered but also share some norms peculiar to their class. As I shall elaborate on later, for instance, banking managers share the norm that they ought to devote to stable supplies of funds for manufacturing firms. Managers of manufacturing firms, for another instance, share the norm that their supreme mandate is the mastery of frontier technologies. These norms can function as the framework of decision making for Japanese salaried managers. Furthermore, the norms are often embodied in prototypes or historical precedents of corporate decisions regarding the inter-firm relationship. For instance, the "social responsibility" (shakai teki sekinin) of business enterprises as public organs (kōki) is a widely cited notion in corporate Japan. Such ideology is not merely rhetoric, it can become a determinant of corporate behavior. Japanese managers are agents of the corporate social organs rather than of individual property holders. ⁹

The Japanese corporation in which these empowered and norm-conforming agents work and pursue their careers is not merely a profit-maximizing sweatshop. It is a representative reflector and implementor of social objectives. Such reflection and implementation does not come about by choice based upon the calculation of private interests. It comes about because of the historically formed conditions in which the Japanese companies are embedded. Japanese corporate decisions are often more

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⁹Social objectives may constitute part of the considerations in the decision making of Western private enterprises, but not the immediate determinants.
influenced by norms or beliefs that Japanese managers share than by pure economic considerations. I dub this condition "norm conformity."

The kind of capitalism in Japan which is anchored on the two conditions of managerial sovereignty and norm conformity is coined "agency capitalism" in this study. In what follows, I shall elaborate upon the origin of agency capitalism and its operating principles for managed competition. The central focus of this inquiry into the nature of agency capitalism is the modern, joint-stock, limited-liability corporation. This public corporation is viewed here in a broad political-economy context, rather than in a narrow economic-managerial one. Of particular importance to this analysis is consideration of the government and the nature of the relationship between modern corporations and the government. The affinity between the government and private corporations is stressed not from the vantage point of government intervention in the economy, but from the perspective of the 'public nature' of private corporations. The essence of the 'public-ness' of private business enterprise is found in the fact that the key socio-political goals are shared by the government and private enterprises together and, more importantly, in the fact that such goals are the backdrop upon which the norm of inter-firm cooperation is projected.

In this study, the behavioral logic of corporate Japan will be approached from two divergent sides: non-manufacturing and manufacturing angles. The two angles will form two case
studies -- industrial financing on the non-manufacturing side, and research, development, and production on the manufacturing side. In these two case studies, specific social objectives shared by government and corporate elites are identified. On the financial side, the goal (which becomes the mandate for banking managers) is the stable supply of funds to industrial corporations. The 'financial community's contribution to the society' (kin'yū teki kōken), through the stable supply of funds to industrial corporations, has long been held as a motto for the managers of the Japanese banks. On the manufacturing side, the prime social, not corporate, goal has been the mastery of advanced technologies ever since the infant stage of the industrial development of the nation. Uniting to learn, adapt, and disseminate industrial technologies has been more important for Japanese corporations than proving superiority over other firms in competition or yielding higher dividend for shareholders. The norm of cooperation among banking corporations on the financial side and among manufacturing firms on the industrial side has been formed, nurtured, and implemented for the sake of attaining such shared social objectives.

The notion of managed market competition is a paradox to the mainstream social sciences, particularly economics, in which it is held that market competition ought to be free of interference. If there is any interference in the market by non-market forces, it is supposed to be only temporary and conditional, and not
inherent or patterned. Of course, there are economic theories that discuss cartels, monopolies, and oligopolistic competition. As I shall discuss later, however, all these theories are essentially about the actual degree of market concentration, which is a good indication that market competition is not itself a perfect theory when put to the real world. The 'management' of market competition is not a concern of these theories.

Managed competition may be a paradox to Western observers, but it is a common sense in Japan. The paradox looms larger because Japan enjoys the status of the second largest capitalist economy of the world probably owing to, not despite of, managed market competition. Moreover, there are no adequate explanations for this paradox. Our lack of understanding of the reasons why rival firms agree to cooperate with each other and have market competition managed probably stems from the inadequacy of our understanding of the Japanese corporation itself.

II. KEY DEFINITIONS

A clue to the understanding of managed competition can be found in Zysman's observation suggested above. Commenting on the market relationship in Japan, he mentioned that Japanese business "collaborates as well as competes."[^10] The compatibility of

competition and cooperation is an essential feature of managed competition in Japan. Richard Samuels calls this compatibility one of "protocols of the Japanese economy" with particular reference to technological development.\textsuperscript{11} But the coexistence of competition and cooperation is still only a static description of managed competition.

What is the core dynamic that makes this coexistence of competition and cooperation take place and continue? I define the core of managed competition as the sharing of scarce values or opportunities that private organizations would pursue exclusively if they operated under the circumstance conceptualized in mainstream economics. These values can be business opportunities, proprietary technological knowledge for industrial corporations, or lucrative lending opportunities for commercial banks. In this concept, the "opportunity" refers to all kinds of opportunities through which either manufacturing or financial corporations can realize gains. The "sharing" refers to the phenomenon that direct rivals share the scarce opportunity that can be otherwise sought after and obtained exclusively.

As I shall elaborate upon in greater detail in the following chapters, opportunity sharing between direct rivals has existed since the very early period of industrialization in Japan. In this study, two particular forms of opportunity sharing are examined closely. The first form is the \textit{joint action} between direct rivals in a specific project or activity in which the

\textsuperscript{11}Samuels, 1994.
rivals pursue the same interest. Collaborative research, development, and production among manufacturing firms in a project, or joint financing among commercial banks for an industrial corporation are good examples. I will refer to this mode as "project-level" sharing as joint actions take place in a project. The second form involves the dividing of business opportunities in a market or industry between competitors with each member claiming a share. The dividing can include 'transfer' or 'turn taking' of business opportunities between rivals over a long period of time, which will eventually amount to a form of sharing in the given market or industry. This mode will be dubbed "industry-level" sharing.\textsuperscript{12} The contents and implications of these two forms of opportunity sharing will be elaborated upon at length in the next chapter.

The central unit of analysis of this study is the market relationship among large publicly listed corporations. In legal and economic terms, the corporations here are modern joint-stock, limited-liability corporations.\textsuperscript{13} I confine the scope of this study to "large" corporations that are listed in the stock exchanges. The limiting of the scope to the upper layer of the

\textsuperscript{12}Here the term industry can also mean a market in terms of level even though they are two different things. If a certain number of firms divide and share a market or a segment of industry, the level of sharing still can be said to be at the industry level.

\textsuperscript{13}The joint-stock, limited-liability corporation will be referred to as the corporation, the firm, or the company interchangeably.
Japanese industrial society can be justified by the sheer fact of high economic concentration in Japan. The Japanese industrial society is comprised of some 2,000 listed corporations; they therefore can provide enough experimental space to examine the nature of corporate Japan.\(^4\) Contrary to the widespread perception of an expanding corporate Japan that is penetrating the overseas capital markets, the portion of companies that are publicly traded in Japan is surprisingly small. As Michael Gerlach observes:

> As of 1987, there were more than 24,000 public corporations in the United States, in comparison with less than 2,000 in Japan. Since the number of firms listed on the New York and Tokyo stock exchanges were nearly identical (at 1,647 and 1,634 respectively), the big difference is in the prevalence of smaller, public U.S. firms traded over-the-counter and on smaller exchanges, and their near absence in Japan.\(^5\)

Among these fewer than 2,000 firms, the ones related to business groups (the so-called keiretsu) make up the majority. As of 1993, the members of the Presidents’ Councils of Big 6 keiretsu (Mitsubishi, Mitsui, Sumitomo, Dai-ichi Kangyō, Fūyō, and Sanwa Banks) numbered 196.\(^6\) Except for some 45 financial and trading

\(^4\)Furthermore, there has been a stark divide between the upper layer and the lower layers of firms in terms of their social status, technological sophistication, and availability or access to resources.

\(^5\)Gerlach, 1992, p. 54.

\(^6\)The presidents’ council (shachōkai) is a collective body of chairmen and presidents of primary firms of keiretsu. The councils usually meet once a month and have their names such as nimokukai (meetings on the second Thursday of the month) or sankinkai (meeting on the third Friday of the month). Their widely cited functions are to learn of new developments in the society and exchange information at the highest management level. Whether the council has a decision-making function or not is a matter of
firms, more than 140 industrial corporations have their own subsidiaries, affiliates, and long-standing subcontractors, many of which are listed firms. Therefore, these sets of networks of firms own a lion's share of the public corporations listed on the stock exchanges. For instance, even though the above 196 firms account for only 0.007% of all corporations in Japan in 1993, they were responsible for 13% of all corporate assets and 14% of the total turnover of corporate Japan. If we add to this count the "independent" keiretsu (e.g. giant manufacturing firms such as Toyota and Hitachi), virtually all of the companies listed on the stock exchanges belong to one keiretsu or another. Therefore, a very high degree of concentration of economic power at the national level is found in the keiretsu, a fact that implies a high degree of homogeneity of the Japanese industrial society.

For the above reasons, this dissertation focuses on the top controversy.

17 For a detailed statistical account, see Kōsei Torihiki Iinkai, 1994.

18 Ibid.

19 Typical "independent" (tokuritsu kei) keiretsu are the business groups under the leadership of giant firms such as Toyota, Nissan, Hitachi, Toshiba, Matsushita Electric, NEC, Fujitsu, Shin Nippon Steel, Tokyu, Seibu, Kintetsu. For instance, Hitachi, Ltd. has 67 subsidiaries, and Toyota Motor Co. has 276 subcontractors organized into two groups of Kyōfūkai and Eifūkai. For a detailed factual presentation, see Ohsono, 1991.

20 For instance, an approximate total of 150 manufacturing firms belonging to the big 6 keiretsu account for 19% of total national corporate assets and 18% of total corporate sales in 1992 (Kōsei Torihiki Iinkai, 1994).
layer of the Japanese industrial society. There may be no a priori reasons that large, "blue-chip" corporations are the best sources of information to study the relationship between corporations and the relationship between principals and agents. But considering such reasons as the exceptionally high level of economic concentration and the higher attention of the Japanese government to the large corporations (relative to medium-scale and small ones), focusing on publicly-traded large corporations seems to be an effective research strategy.

Even while looking at the large corporations, this discussion will focus particularly on controlled case studies of 'opportunity sharing among direct rival' corporations. Long-standing, cooperative relationships among firms have been studied from diverse angles. Some studies examine the relationship between procurement and supply corporations. Others emphasize the importance of coherence and cooperation among the firms that belong to a large organization called an industrial group, keiretsu, or a network. Still others point to inter-firm alliances organized for research and development or other corporate functions.

In order to put the core problem of this study in perspective, two clarifications are necessary. First, opportunity sharing, as I shall present later, more often than not takes place in the form of long-standing relationships. That

\[2^{1}\text{Here the corporations can mean banking corporations (i.e., banks) in the case of the financial industry.}\]
there exists a long-standing relationship between corporations, however, does not itself mean always there exists a cooperative relationship. The long-standing nature of the relationship is not peculiar to Japan either. Arthur Okun has noted that most trades are carried out not in auction markets but in what he calls "customer markets" with continuing relationships.\textsuperscript{22}

Unlike the notion of long-term relationships that relies on the element of time for their success, opportunity sharing addresses the state or mode of relationship in which competitors that seek the same values get to share them.

Secondly, the term "direct rivals" refers to the corporations that pursue the exact same values or opportunities. Such widely studied topics as the cooperative relationship between procurement firms and suppliers (or subcontractors) and the cooperation among keiretsu member firms are out of the purview of this study because they do not involve "direct" rival corporations. In the same vein, cooperation among firms across national borders is not the subject of this investigation for the simple reason that the debate in which this study is engaged is fundamentally anchored on the notion of a domestic economy as an coherent space in which scarce resources are allocated with reference to the national polity and economy. In other words, industrial or banking corporations from countries other than Japan are not regarded as direct rivals in this particular study.

\textsuperscript{22}Okun, 1980.
III. PERSPECTIVES AND METHODOLOGY

A. Perspectives

In validating my argument, a key task is to test and refute the hypothesis that Japanese corporations' actions regarding inter-firm relationships are based on their motivations to maximize their (that is, their shareholders') interests. The alternative explanation offered in this study is 'political-economic' because it is based on the assumption that corporate actions are determined by motivations and conditions that supersede narrow economic concerns at the corporate level. Corporate actions are instead interpreted to reflect the social norms that were created under specific historical conditions that have political rather than economic implications. In other words, actions and behaviors of the modern Japanese corporation are here interpreted in terms of their embeddedness in the political-economic structure or milieu at large; the inevitable and unequivocal interplays between social objectives and private motivations are more important than the function of the latter only.

My explanation, grounded in the norms and institutions of political-economy origin, also rejects another widely held view about the Japanese political economy: that is, state activism. There is a strong belief that Japanese corporations cooperate and share opportunities with one another because they are either
induced or forced to do so by the government. State intervention is no doubt an important force underlying managed competition. Nevertheless it may not be an immediate determinant of the behavior of the market actors. State activism fails to explain the cases of opportunity sharing that take place at the initiative of private corporations with no government demands or incentives. I will demonstrate the limit of state activism by proving that the Japanese government, when it comes to the market order, lacks the core components of state power: that is, coherence, prescience, and autonomy. This statement does not negate the overall effectiveness of the Japanese state in its century-long guidance and promotion of industries. The Japanese state can be effective in advancing Japan's industries even when its policies are ineffective or misdirected. In the aerospace program, for instance, there has been no single coherent (let alone prescient) policy that has guided the development of aerospace firms from a government level. The aerospace industry, however, has been successful in launching rocket and satellite programs eventually with Japanese technologies. In short, what is at issue in this study is not whether the government is effective in industrial development but whether or not it can dictate the kinds of relationships allowed between private corporations.

Even though I shall challenge the two major theories (or, more broadly speaking, approaches) of managed competition, they are not rejected entirely. Agency capitalism will provide a more
robust explanation than those theories based on interest maximization and state activism. Nevertheless, one cannot infer that Japanese corporate decision makers do not try to maximize their firms' interests or that they are immune to what the government suggests or enforces. Agency capitalism will explicate the conditions under which Japanese corporations are induced (or even compelled) to cooperate with each other. These conditions which are beyond market mechanisms but are not pertinent to government jurisdiction have not been identified by the studies offered from the perspectives of interest maximization or state activism.

In elaborating my general argument about agency capitalism, I take a historical perspective in two senses. I study and confirm the phenomenon of managed competition for the period that covers almost the entirety of the development of modern capitalism in Japan. More importantly, this study will demonstrate how contemporary corporate behavior is shaped by historical legacies. In the same vein, this study challenges the widespread view of historical discontinuity that the post-war Japan is unique and different from the Japan of previous periods.\textsuperscript{23} My view of historical continuity, however, does not imply a linear historical evolution of practices and institutions. Historical accounts of contemporary Japanese political economy usually start their discussion from the collapse of the Shogunate and the ensuing Meiji Restoration. One

\textsuperscript{23}For the debate on this issue, see Chapter 7.
persistent assumption is that current institutions and practices result from continuous historical development and accumulation. This study suggests that the norm of inter-firm cooperation is the product of historical accidents and contingent events; it did not evolve in a gradual and cumulative fashion.

This study is carried out from a comparative perspective, even though direct, explicit comparisons are not made throughout the volume. It starts from a simple question 'why is managed competition prevalent in Japan while it is rare in other advanced economies?' The anomaly that market competition is managed means even more when we realize that managed competition has been a powerful driving force of Japan’s rise to become the second largest economy in the world.

B. The Methodology and Case Studies

The key method employed to test my argument is comparative based on case studies, not on experiments or statistical analyses. Despite its imperfections, the case method has been widely used in social science. The problem that there are always many variables, but not equally as many cases to test the effects of the variables is an inevitable fact of life for social scientists. Acknowledging this problem, Arend Lijphart developed
the "comparable-case strategy" and his method is still widely used, though sometimes with the different name of the "controlled comparison" method.\textsuperscript{24} This is the method that is employed in this study.

Moreover, I introduce three theories of managed competition: interest maximization; government activism; and instead support my argument, agency capitalism. The conceptual model can be conceived as one in which these three explanations compete for superiority. In order to test these theories, I employ two case studies. The two selected cases are research and development (R&D) and industrial finance, the relevance of which will be discussed later.

The competing explanations will be contested with these two case studies according to the classical-logical method of agreement suggested by John Stuart Mill in his A System of Logic (1843). With the method of agreement, the researcher attempts to find the similarities in independent variables associated with a common outcome in two or more cases.\textsuperscript{25} In this logical system, the association between independent variables and the dependent variable will be established through the method of elimination. Among several variables, which the researchers select by the 'cruder' method (that is compared with experimental or

\textsuperscript{24}Lijphart, 1975. For the notion of the "controlled comparison" method, see George, 1982.

\textsuperscript{25}The alternative is the method of difference. The method of difference attempts to identify independent variables associated with different outcomes. On this point, see Lijphart, 1971, p. 687.
statistical methods) of manipulating variables, the researcher will eliminate variables and come up with the surviving independent variable(s) that proves to be associated with the dependent variable.

Based on the method of elimination for reaching the agreement between cases, I will demonstrate that the theory of agency capitalism is the theory that satisfactorily proves the positive association with the dependent variable in both case studies. The logical structure can be summarized as follows:

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable (outcome)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case #1</td>
<td>(a), (c)</td>
</tr>
<tr>
<td>Case #2</td>
<td>(b), (c)</td>
</tr>
</tbody>
</table>

- case #1: competing banks' loan syndication
- case #2: opportunity sharing in research, development, and production

(a): interest maximization
(b): state activism
(c): agency capitalism
(y): opportunity sharing.

In these logical associations, I need to justify why independent variable (a) (interest maximization) is selected to compete with independent variable (c) (agency capitalism) in the first case study, and likewise, why (b) competes with (c) in the second case study.

The finance case study (# 1) illustrates the behavior of banking corporations (or, simply speaking, the banks). As for lending decisions made by commercial banks (which are characterized as "one-off" or "spot" deals between the lender and
the borrower), the most powerful explanation is the banks' economic motive to maximize their interests (therefore, the dividends for their shareholders). The notions of risk sharing and the reduction of transaction costs as reasons for loan syndication are specific applications or institutions of the banks' efforts to maximize their interests. Even though the roles of financial authorities such as the Ministry of Finance, the Bank of Japan, or special banks are important in industrial financing in general, these authorities do not intervene in banks' decisions about whether they should enter, or stay in, the loan syndicates for specific industrial corporations. Therefore, it is logically valid that my hypothesis is tested against the interest maximization hypothesis.

On the other hand, the case study of research, development, and production can bring light to the behavior of manufacturing corporations.\(^{26}\) The most powerful explanation for cooperative R&D among rival corporations, particularly in the strategic industries, is that it is induced and supported by the government (independent variable \(b\)). The Japanese government is famous for its wide array of means of intervention in corporate activities for the purpose of promoting technologies and industries. Control of market entry, selective relaxation of the Fair Trade Law, and the competition policy are only selected examples of the power the Japanese government has. It is therefore safe to assume

\(^{26}\)For the sake of brevity, research, development, and production will be shortened to the conventional term of R&D.
that variables (b) and (c) are in a contested relationship.

In the above logical structure, only the independent variable (c) will prove to survive the method of elimination and will in turn be interpreted to be most closely associated with the variance in the outcome. Representativeness of the two case studies vis-a-vis the entire scene of corporate Japan is inferred; given the limitation of this or any other method, this generalization cannot be categorically declared. Certainly, the question 'can the two cases speak for the universality or for the class from which they are drawn (that is, the industries or sectors of the entire Japanese economy in which cooperative corporate behaviors are found)' is valid.\textsuperscript{27}

As I shall discuss in detail in the next chapter, opportunity sharing among rivals can be found in diverse industries or sectors. Some cases of opportunity sharing are found in strategic industries, and others in non-strategic, consumer-oriented industries.\textsuperscript{28} Some might argue that opportunity sharing is to be found only in the industries or sectors where the contracts or deals have long-term lives. This statement is not necessarily true because opportunity sharing is

\textsuperscript{27}As Alexander George argues, this type of question "conveys a misplaced concern since neither the type of contribution to theory of development that is made by the controlled comparison method nor the way in which it goes about doing so utilizes assumptions about frequency distribution or extrapolations from patterns discovered in the few cases studied to the total universe of class of events of which these cases are instances" (George, 1982, p. 23).

\textsuperscript{28}The notion of the strategic industry will be discussed in Chapter 2.
found in the "spot" deals such as bank lending to industrial corporations. In terms of the patterns of opportunity sharing, moreover, we can consider well-founded Japanese industrial-organizational practices such as cooperative research organizations, cartels (including cartel-like coordinations), and inter-competitor consultation (dangō).

Selecting the cases that "represent" the entirety of these arrangements and practices would be impossible or futile. Although I do not claim that my cases are the "most" representative, my case studies confirm the existence of patterns we observe elsewhere. The R&D case study involves all major cooperative arrangements such as research associations, cartels, and inter-competitor consultation. The bank lending case study speaks of the non-financial sectors, but it also encompasses discussions on banks' behaviors, reflecting cartel and inter-competitor consultation.

With these two case studies, I attempt to discover an alternative causal pattern to explain the nature of behavior and decision making in corporate Japan rather than to discover or infer the frequency distribution of causal relationships in the entire sample of the Japanese economy.

This point will be further developed as we examine the role of my hypothesis testing in theory development. The two case studies are made within the framework of focused comparison with a view to discover an alternative causal pattern rather than to 'refute' the existing explanations. In other words, the
methodology of this study is designed to help build, refine, and elaborate the existing theory of the nature of the corporate economy in Japan rather than to subject this theory to decisive tests.\textsuperscript{29}

For that purpose, each of my case studies is presented with "within-case" research objectives in mind.\textsuperscript{30} As a historical study, each case will assess the causal relationship between variables within its own research objectives and then will be compared with the another case. In the R&D case, the industry in focus is the aerospace industry, which itself consists of the launch vehicle and satellite sub-industries. As for the question of why rival space firms cooperate in R&D (compared with, for example, chemical or food firms), some would argue that aerospace firms cooperate because of the nature of the industry itself, that is, its 'national strategic' nature. For this very reason, the case serves the research objective of refuting the argument that government intervention as the sole or dominant explanation of the success of opportunity sharing.

As for industrial financing, there is no particular argument regarding the "strategic-ness" of the industry. In contrast, banks' lending decisions are believed to be based on the economic motivations of interest maximization (which will include such

\textsuperscript{29}See George, 1982, p. 33 on this point.

\textsuperscript{30}For a most successful example of the single-event, within-case analysis, see Graham Allison's account of the Cuban missile crisis (1971).
sub-category notions as monitoring cost reduction or risk reduction). This purely economic argument will be refuted in the case study of cooperative financing.

In both case studies, the theory of agency capitalism will survive the process of elimination and thus will be presented as an alternative explanation for how opportunity sharing works. For this purpose, my hypothesis is presented in the form of "necessary conditions" that explain the dependent variable, that is, opportunity sharing: the hypothesis can be separated into the two necessary conditions of managerial sovereignty and norm conformity.

The data used in this study is drawn from a typical combination of sources. The review of key secondary materials will be the foundation upon which the evidence collected from historical and statistical documents is based. In addition, the relevant policymakers from both the public and private sectors will serve as important resources through interviews and surveys.

IV. THE ORGANIZATION OF THE STUDY

In Chapter 2, opportunity sharing is discussed to illustrate why it is an anomaly that needs a political-economy explanation. The generality of opportunity in Japan and its unique
predominance compared to other advanced economies will be elaborated upon with illustrative cases.

In Chapter 3, I shall present currently available explanations regarding managed competition and review them critically. This literature review will discuss the works that belong to two principal groups of thinkers on the general problem of cooperation among rival economic actors. One group of writers believe that Japanese corporations cooperate with each other because doing so constitutes economic gains or utilities. The dominant majority of writers who belong to this first category are economists (who subscribe to diverse traditions in the economics discipline). Additionally, some sociologists are also grouped in this category because their arguments are anchored on the notion of rationality or efficiency. The other line of reasoning to be reviewed is that of state activism and intervention in the economy. The relevance of government policies and activities for securing stable market order, particularly by preventing excessive competition, will be reviewed.

Chapter 4 presents the core theory of my argument: the notion of "agency capitalism." The two conditions of agency capitalism under which opportunity sharing -- the dependent variable -- is argued to occur will be developed and explained with historical and empirical data.

In Chapter 5, I will test the interest maximization hypothesis in competition with my agency capitalism hypothesis
with the case study of industrial financing. The specific form of industrial financing in which rival banks work together is called "cooperative financing" (kyōchō yūshi) or loan syndicate (yūshi shidan). Rival banks participate in loan syndicates and remain in them for years. These arrangements show a high degree of stability by surviving all kinds of market changes. Even though the original conditions of cooperative financing -- war mobilization -- have ceased to exist, the practice continues today as a market institution. The specific case study of Hitachi, Ltd. and Mitsui & Co. confirm the continuity and stability of cooperative financing. This stable collective arrangement is explained in terms of the shared ideology that commercial banks ought to fulfill. That is, it is their public function to maintain stable fund supplies for manufacturing firms.

After testing the interest maximization hypothesis in the one-off-deal context in which virtually no national strategic implications are involved, I test next the government activism hypothesis. Chapter 6 presents a case study of opportunity sharing in research and development. The R&D case study lays its focus on the aerospace industry, with additional supporting from the pre-war shipbuilding industry. The application satellite industry is divided between 3 major firms: Mitsubishi Electric (MELCO) for communications satellites (CS); NEC for geomeeteorological satellites (GMS); and Toshiba for broadcasting satellites (BS). This basic division of labor formula has
survived many rounds of competition with only minor changes. In the rocket industry, then, the consecutive development projects of N-I, N-II, H-I, and H-II rockets, the content and portion of opportunity sharing between three major participants -- MHI, Ishikawajima-Harima Heavy Industry (IHI), and Nissan Motors -- has remained virtually unchanged. I explain these market divisions in terms of the engaged firms' determination (with the support of politicians and bureaucrats) to master the frontier technologies, particularly the technologies for guiding and controlling spacecraft.

In Chapter 7, I will summarize the findings and then highlight the theoretical implications of the empirical case studies. The key ramifications of my argument will be discussed with reference to contemporary research on the Japanese political economy, particularly in terms of the historical continuity of economic mobilization and the continued suppression of economic liberalism in corporate Japan.
CHAPTER TWO

THE PROBLEM:
OPPORTUNITY SHARING AS AN ANOMALY

There are numerous examples in which rival Japanese corporations maintain cooperative arrangements to "live together" (kyōsei). The spirit of living together is even expressed as the "sharing philosophy" -- or haibun sisō -- in Japanese parlance.¹ What makes such opportunity sharing in Japan a puzzle at all? Why does it call for a new interpretation? As I will elaborate on in what follows, opportunity sharing is an anomaly for two major reasons: (1) its universality in Japan and (2) its distinctiveness in the international context.

I. THE GENERALITY OF OPPORTUNITY SHARING IN JAPAN

Opportunity sharing among rivals is widespread and common in Japan. The two patterns of opportunity sharing -- i.e., the

¹Actually the word haibun (or bunpai) sisō is not my invention; it is used in the Japanese policy and industrial communities as a general expression. Referring to the opportunity sharing with MELCO, for instance, the NEC history book writes that "NEC became in charge of the transmitter while MELCO got the antenna and antenna controller work; this work division reflected the haibun sisō that had been created in the previous work sharing in the telemeter project" (Nihon Denki Kabushiki Kaisha, 1987, p. 114).
division of opportunities at the industry-level and the sharing of commonly sought-after values at the project-level -- are found in diverse industries and at different points in time. As a framework for conceptualizing opportunity sharing, we can think of two axes of classification. On one axis is the industries involved. There is a widely held belief that opportunity sharing exists only in the "key" (kihan) or "strategic" (senryaku) industries because the government initiates or facilitates opportunity sharing in these industries.\textsuperscript{2} Therefore, one important question to explore is whether opportunity sharing is specific to certain industries.

Another important, yet unexplored, axis is the duration of the cooperative inter-firm arrangement or contract. Ronald Dore's contrast of "obligated relational contracting" of Japan and the Western "spot" contracting serves as a useful guideline.\textsuperscript{3} Many opportunity-sharing arrangements are long-standing in duration and/or recurrent in frequency. Cooperative

\textsuperscript{2}Here the "strategic" industries are defined as the industries in which the government finds potentials for national competitiveness \textit{vis-a-vis} other countries. Some industries can be strategic due to their promises of export markets (computer or automobile); others can be regarded as strategic as they are basic industries for others (e.g., steel or semiconductor); still others can be seen as strategic because the mastery of relevant technologies would have critical impacts on the advancement of overall technological standards of manufacturing industries (e.g. aircraft, space, or information). Even though this definition is not clear-cut and the notion of strategic-ness can be contextually defined, its subjects are invariably "target" industries that receive supports and guidance of the government on the priority basis.

\textsuperscript{3}Dore, 1983.
arrangements in research and development are typical examples. But there are opportunity-sharing arrangements established in the areas in which such arrangements are supposed to be spot or short-term. The cooperative lending arrangements among commercial banks are a good case in point. In the first place, collaborative lending by rival banks is rare in other advanced countries. In Japan, however, collaborative lending is not merely common; it is patterned. Commercial banks renew short-term loans that mature in less than a year repeatedly so the loans become long-term in actuality. These loans also consist of the shares contributed by several banks, and the shares tend to remain stable over a long period of time. This cooperative arrangement among commercial banks points to another important fact that opportunity sharing is not peculiar to the relationships between industrial corporations.

Combining these two axes, we can think of a matrix as suggested in Figure 2.1. At one extreme (on the upper left corner) are the cases of basic or strategic industries in which cooperative arrangements are expected to be either long-standing or recurrent. At the other extreme (on the lower right corner) are the cases that are expected to be spot or one-off arrangements in essence and have no implications for basic or strategic industry. Cases of opportunity sharing can be located within the conceptual space created by the two axes of the industrial nature and the duration/frequency of arrangement. No matter where it is located, however, every case of opportunity
FIGURE 2-1
PATTERNS OF OPPORTUNITY SHARING

THE NATURE OF DEALS

long-term or recurrent deals

pre-war aircraft
pre-war shipbuilding
pre-war steel

post-war aircraft
space-launch vehicles

post-war chemical

pre-war telecommunications

post-war steel
post-war shipbuilding

construction
post-war telecommunications

semi-conductor
computer

space-satellites
television

INTER-COMPETITOR
CONFERENCES
(dango)

CARTELS
(including
cartel-like behaviors
and coordinations)

automobile

consumer
electronics

(RESEARCH
ASSOCIATIONS

foodstuff

syndicated
long-term loans
(including automatic renewals of short-term loans)

(theoretical)
short-term loans

short-term or spot deals
sharing contains the elements of the division of opportunity at the industry (or market) level or the sharing of commonly pursued values at the project level. What is more, most cases have both elements. In what follows, I shall illustrate some cases to testify to the generality of opportunity sharing.

A. The Cases of Basic Industries: Long-Standing/Recurrent Deals

The most dramatic revelation of opportunity sharing among rival firms comes from the cases of research, development, and production of defense equipment. Opportunity sharing among rival firms in terms of both joint action and sharing is most vivid in these cases. Consider, for instance, warship procurement in the pre-war period. Since the Russo-Japanese War of 1905, the Imperial Navy began to place orders for warships with private shipbuilders.4 In 1912, Mitsubishi procured an "informal order" (naimei) from the Navy to build the battleship Hitana. In the same way, Kawasaki was "appointed and ordered" (shirei) to build the battleship Ise.5 In the key warship markets of cruisers, destroyers, and battleships, two leading shipbuilders, Mitsubishi and Kawasaki, had received equal orders in terms of frequency and total tonnage of ships built. In these markets, the two firms

4The assembly of the cruising battleships Ikoma in 1907 and Satsuma in 1910 was a world-class achievement in the shipbuilding history.

not only occupied oligopolistic positions but also had exact awards, exact in terms of the numbers of vessels and tonnage (Table 2-1). The Imperial Navy appears to have made it a policy (hōshin) to give orders "roughly equally" (ōmune kintō ni) to Mitsubishi and Kawasaki.  

Opportunity sharing was not just for the two large oligopolistic firms. The second-tier (e.g., Osaka Steel Works and Ishikawajima) and third-tier shipbuilders (e.g., Uraga, Fujinagata, Harima, and Tama) were given equal opportunities in the markets of destroyers, cargo vessels, and de-mining ships (Table 2-1). The sharing of the shipbuilding market during the pre-war period was not limited to warships. During the Taishō period (1912-1925), for instance, the market shares in the civilian ship industry for Mitsubishi, Kawasaki, and Osaka were 28%, 27%, and 26% respectively.  

The sharing of technology and knowledge through project-level opportunity sharing also took place in the pre-war shipbuilding industry. The Navy intervened in the process of research and selection of technology, and the implementation of the work was carried out by Mitsubishi Shipbuilding in collaboration with other firms. The typical formula was that "the first ship is designed by Kure Arsenal and the second, by Yokosuka Arsenal; then the third and fourth ships will be

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6 Inoue, 1990, p. 149.

7 Ibid., 148.

8 See, for example, Matsumoto, 1991.
<table>
<thead>
<tr>
<th>Type</th>
<th>Manufacturer</th>
<th>Count</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Class Cruiser</td>
<td>Mitsubishi</td>
<td>3</td>
<td>24,200</td>
</tr>
<tr>
<td></td>
<td>Kawasaki</td>
<td>3</td>
<td>24,200</td>
</tr>
<tr>
<td>2nd Class Cruiser</td>
<td>Mitsubishi</td>
<td>1</td>
<td>4,950</td>
</tr>
<tr>
<td></td>
<td>Kawasaki</td>
<td>1</td>
<td>4,950</td>
</tr>
<tr>
<td>Battleship</td>
<td>Mitsubishi</td>
<td>1</td>
<td>31,260</td>
</tr>
<tr>
<td></td>
<td>Kawasaki</td>
<td>1</td>
<td>31,260</td>
</tr>
<tr>
<td>Cruising Battleship</td>
<td>Mitsubishi</td>
<td>1</td>
<td>27,500</td>
</tr>
<tr>
<td></td>
<td>Kawasaki</td>
<td>1</td>
<td>27,500</td>
</tr>
<tr>
<td>1st Class Destroyer</td>
<td>Mitsubishi</td>
<td>9</td>
<td>11,902</td>
</tr>
<tr>
<td></td>
<td>Uraga</td>
<td>6</td>
<td>9,135</td>
</tr>
<tr>
<td></td>
<td>Fujinagata</td>
<td>6</td>
<td>9,135</td>
</tr>
<tr>
<td></td>
<td>Ishikawajima</td>
<td>4</td>
<td>5,990</td>
</tr>
<tr>
<td></td>
<td>Yokohama</td>
<td>1</td>
<td>1,700</td>
</tr>
<tr>
<td></td>
<td>Kawasaki</td>
<td>1</td>
<td>1,227</td>
</tr>
<tr>
<td>2nd Class Destroyer</td>
<td>Kawasaki</td>
<td>10</td>
<td>7,030</td>
</tr>
<tr>
<td></td>
<td>Fujinagata</td>
<td>6</td>
<td>4,650</td>
</tr>
<tr>
<td></td>
<td>Ishikawajima</td>
<td>6</td>
<td>4,400</td>
</tr>
<tr>
<td></td>
<td>Uraga</td>
<td>6</td>
<td>4,165</td>
</tr>
<tr>
<td></td>
<td>Mitsubishi</td>
<td>2</td>
<td>1,330</td>
</tr>
<tr>
<td></td>
<td>Hitachi</td>
<td>1</td>
<td>665</td>
</tr>
<tr>
<td>1st Class Gunship</td>
<td>Mitsubishi</td>
<td>1</td>
<td>1,350</td>
</tr>
<tr>
<td></td>
<td>Yokohama</td>
<td>1</td>
<td>820</td>
</tr>
<tr>
<td>2nd Class Gunship</td>
<td>Mitsubishi</td>
<td>6</td>
<td>22,841</td>
</tr>
<tr>
<td></td>
<td>Kawasaki</td>
<td>3</td>
<td>16,665</td>
</tr>
<tr>
<td></td>
<td>Uraga</td>
<td>2</td>
<td>11,140</td>
</tr>
<tr>
<td></td>
<td>Yokohama</td>
<td>1</td>
<td>5,595</td>
</tr>
<tr>
<td></td>
<td>Harima</td>
<td>2</td>
<td>676</td>
</tr>
<tr>
<td>Special Cargo Vessel</td>
<td>Kawasaki</td>
<td>6</td>
<td>79,100</td>
</tr>
<tr>
<td></td>
<td>Hitachi</td>
<td>2</td>
<td>30,800</td>
</tr>
<tr>
<td></td>
<td>Yokohama</td>
<td>2</td>
<td>30,800</td>
</tr>
<tr>
<td></td>
<td>Mitsubishi</td>
<td>2</td>
<td>17,502</td>
</tr>
<tr>
<td>Demining Ship</td>
<td>Uraga</td>
<td>2</td>
<td>762</td>
</tr>
<tr>
<td></td>
<td>Harima</td>
<td>1</td>
<td>760</td>
</tr>
<tr>
<td></td>
<td>Hitachi</td>
<td>1</td>
<td>760</td>
</tr>
<tr>
<td></td>
<td>Tama</td>
<td>1</td>
<td>760</td>
</tr>
<tr>
<td>Submarine</td>
<td>Mitsubishi</td>
<td>2</td>
<td>17,000</td>
</tr>
<tr>
<td>Aircraft Carrier</td>
<td>Asano</td>
<td>1</td>
<td>9,500</td>
</tr>
<tr>
<td>Ice Breaker</td>
<td>Kawasaki</td>
<td>1</td>
<td>2,930</td>
</tr>
<tr>
<td>Mining Ship</td>
<td>Ishikawajima</td>
<td>1</td>
<td>1,345</td>
</tr>
</tbody>
</table>

Source: Zōsen Kyōkai, 1935.
Table 2-2
SELECT CASES OF COLLABORATION BETWEEN RIVALS IN MILITARY SHIPBUILDING
1907 - 1927

<table>
<thead>
<tr>
<th>Name</th>
<th>Year of Ordering</th>
<th>Type</th>
<th>Frame Maker/Integrator</th>
<th>Engine Maker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaki</td>
<td>1919</td>
<td>destroyer</td>
<td>Uraga</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Fuji</td>
<td>1919</td>
<td>destroyer</td>
<td>Fujinagata</td>
<td>Kawasaki</td>
</tr>
<tr>
<td>Gojure</td>
<td>1920</td>
<td>gunship</td>
<td>Uraga</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Hagi</td>
<td>1920</td>
<td>destroyer</td>
<td>Uraga</td>
<td>Kawasaki</td>
</tr>
<tr>
<td>Susuki</td>
<td>1920</td>
<td>destroyer</td>
<td>Ishikawajima</td>
<td>Kawasaki</td>
</tr>
<tr>
<td>Abukuma</td>
<td>1921</td>
<td>gunship</td>
<td>Uraga</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Asakaze</td>
<td>1922</td>
<td>destroyer</td>
<td>Mitsubishi</td>
<td>Kure Arsenal</td>
</tr>
<tr>
<td>Hayate</td>
<td>1922</td>
<td>destroyer</td>
<td>Ishikawajima</td>
<td>Ko Arsenal</td>
</tr>
<tr>
<td>Sanae</td>
<td>1922</td>
<td>destroyer</td>
<td>Uraga</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Sawarabi</td>
<td>1922</td>
<td>destroyer</td>
<td>Ishikawajima</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Asagao</td>
<td>1922</td>
<td>destroyer</td>
<td>Ishikawajima</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Yūgao</td>
<td>1922</td>
<td>destroyer</td>
<td>Fujinagata</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Fūyō</td>
<td>1922</td>
<td>destroyer</td>
<td>Fujinagata</td>
<td>Kawasaki</td>
</tr>
<tr>
<td>Karukaya</td>
<td>1922</td>
<td>destroyer</td>
<td>Fujinagata</td>
<td>Sasebō Arsenal</td>
</tr>
<tr>
<td>Satōkik</td>
<td>1923</td>
<td>destroyer</td>
<td>Fujinagata</td>
<td>Kō Arsenal</td>
</tr>
<tr>
<td>Naka</td>
<td>1924</td>
<td>gunship</td>
<td>Yokohama</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Fuzuki</td>
<td>1924</td>
<td>destroyer</td>
<td>Fujinagata</td>
<td>Kō Arsenal</td>
</tr>
<tr>
<td>Minazuki</td>
<td>1925</td>
<td>destroyer</td>
<td>Uraga</td>
<td>Kō Arsenal</td>
</tr>
<tr>
<td>Mochizuki</td>
<td>1926</td>
<td>destroyer</td>
<td>Uraga</td>
<td>Maizuru Arsenal</td>
</tr>
<tr>
<td>Yūzuki</td>
<td>1926</td>
<td>destroyer</td>
<td>Fujinagata</td>
<td>Kō Arsenal</td>
</tr>
</tbody>
</table>

designed and built by Mitsubishi and Kawasaki." Selected examples of collaboration between the navy arsenals and corporations and between the latter is illustrated in Table 2-2.

The Imperial Navy's policy on opportunity sharing among competing firms was similar in the case of military aircraft. Since the creation of the Imperial Navy's air force and until the ending of the Pacific War, the Navy's procurement of eight different types of carrier fighters was distributed evenly to two leading aircraft manufacturers, Mitsubishi and Nakajima.¹⁰ Competing aircraft manufacturers did not merely acquire the same market shares, they also shared technology at the project level, particularly owing to the Navy-initiated policy of "work transfer" (tenkan sagyō). This new policy "mandated interfirm collaboration through new institutions of aircraft and development."¹¹ The exchange of expertise and technology in building the famous Zero Fighter aircraft (reisen) between Mitsubishi and Nakajima was a typical example. Such sharing relationship, however, was found among other rival firms as follows:

<table>
<thead>
<tr>
<th>technology</th>
<th>developer</th>
<th>transferred user</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kotobuki air engine</td>
<td>Nakajima</td>
<td>Aichi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kawasaki</td>
</tr>
</tbody>
</table>

---

⁹Inoue, 1990, p. 120.

¹⁰Gofukuda, 1980.

Ha-series engines          Kawasaki          Nakajima
airframe (88 Bomber)     Kawasaki          Tachikawa
Zero fighter             Mitsubishi        Nakajima.

A similar arrangement was also made at the initiative of the Imperial Army as well. For example, the Japanese Imperial Army’s 1937 formula of dividing R&D work for the competing airframe and engine makers was:

- small/mid-sized aircraft: Nakajima or Kawasaki Aircraft
- mid-sized/large aircraft: Mitsubishi Aircraft
- trainer & carrier planes: Tachikawa Aircraft
- air-cooling engine: Nakajima Aircraft
- water-cooling engine: Kawasaki Aircraft
- both: Mitsubishi Aircraft.

The tradition of opportunity sharing inspired by the military in the pre-war period did not die entirely. It seems to continue in the post-war period as well. A dramatic example of opportunity sharing in the recent period is seen at the episode of the "kyōgyōka" (literally, inter-firm cooperation) among five builders of warships (Mitsubishi Heavy Ind., Ishikawajima-Harima Heavy Ind., Sumitomo Heavy Machinery, Mitsui Shipbuilding, and Hitachi Shipbuilding). On 26 April 1995, Ishikawajima-Harima (IHI) and Sumitomo agreed to set up a company through which the two companies will cooperate in seeking orders for construction and repair of warships. The move was made to counteract the decreasing orders from the Maritime Self-Defense Force (MSDF). As the need for warships gradually shrinks, a MSDF high-ranking official said, "NSDF’s traditional policy of supporting five
companies may have to change. What we really need is two big firms, one in east Japan and the other, west Japan." The joint operation between IHI and Sumitomo reflected this situation.

Opportunity sharing in research, development and production in the aircraft industry takes the form of not only the clustering of firms but also that of the division of work in explicit numerical proportions. For instance, it was decided in 1980 that the work to build T-4 jet trainers for the Defense Agency (JDA) would be divided in the following way:

KHI [Kawasaki Heavy Industry] would be responsible for 40 percent of the airframe, final assembly, and flight testing. MHI [Mitsubishi Heavy Ind.] and IHI [Ishikawajima-Harima Heavy Industry] were each allotted 30 percent... Similar formulae are found in the following works, to name only several:

<table>
<thead>
<tr>
<th>the work(s)</th>
<th>work shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>FJR-710 engine</td>
<td>IHI (70%) - KHI (15%) - MHI (15%)</td>
</tr>
<tr>
<td>F-100 engine</td>
<td>IHI (60%) - MHI (20%) - KHI (20%)</td>
</tr>
<tr>
<td>T-56 engine</td>
<td>IHI (60%) - MHI (20%) - KHI (20%).</td>
</tr>
</tbody>
</table>

Even though the above illustrations are drawn from the defense procurement markets, opportunity sharing in the pre-war period was not peculiar to the defense markets alone. The electric cable market, from which the Ministry of Posts and

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Telecommunications (MPT) was the main procurer, showed a similar pattern. Moreover, the opportunity sharing formula established in this specific market by Sumitomo Cable, Furukawa Electric, and Fujikura Cable still persists. Towards the end of the Taishō period, the use of electricity had been quickly increasing, demanding large volumes of cables. Until 1924 the MPT had been employing the closed, informal contracting methods with these selected makers. In 1924, however, the MPT had organized a new Procurement Section (jūhinka) to implement a new procurement method. The MPT wanted to have the three suppliers coordinate the shares and supply plans among themselves. After consultations the MPT and the three makers finally signed a memorandum on April 1, 1926, which contained key clauses defining the procurement process to be carried out by voluntary -- that is, voluntary according to the procurer -- contracts (zui keiyaku) between MPT and the makers and that each maker would be entitled to the particular shares as follows:¹⁵

<table>
<thead>
<tr>
<th>Company</th>
<th>Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sumitomo Cable</td>
<td>36.5%</td>
</tr>
<tr>
<td>Furukawa Electric</td>
<td>36.5%</td>
</tr>
<tr>
<td>Fujikura Cable</td>
<td>27.0%</td>
</tr>
</tbody>
</table>

Recent interviews with the managers of above companies that the shares of procurement of NTT are still basically maintained even though the latter became privatized.¹⁶


¹⁶Interview, Senior Researcher, Fujikura Ltd., Tokyo, 22 July 1993.
B. The Cases of Banks in Cooperation: Spot Deals in the Money Matters

There is a striking resemblance between manufacturing and financial sectors in terms of the nature and logic of opportunity sharing. Opportunity sharing in industrial finance is best illustrated by the practice called cooperative financing (kyōchō yūshi or yūshi shidan). Commercial banks form and maintain cooperative financing arrangements to fund industrial corporations even when each bank can enjoy exclusive lending transactions. These cooperative arrangements are maintained not merely through a single project but are continued for decades and even survive market changes. Such long-standing relationships are possible, through, among other things, making the "spot" deals long-lasting. The transforming of one-off deals into long-standing ones is possible because "short-term" loans with the maturity of less than a year are renewed automatically to become "long-term" loans of the maturity with one year or more.

An exemplary piece of evidence of continuous renewal of short-term loan is found in the cases of steel makers and their banks. During the period of 1951 and 1969, there were 19 cases of 6-month-maturity short-term loan. Fuji Bank was the largest short-term loan provider to NKK, with all of 37 loans provided with no changes in the lending terms. The same relationship is found between Sumitomo Metal and Sumitomo Bank. The latter case may lead one to wonder if automatic loan renewals are found only between industrial firms and their keiretsu banks. This
supposition is not true because Sumitomo Bank and Sanwa Bank maintained a short-term lending arrangement with of the same kind for all the 37 loans; Sumitomo Bank was then the largest short-term loan provider for 35 terms, leaving the top lender position to Sanwa Bank for 2 terms.\textsuperscript{17} This stable financing arrangement between industrial corporations and banks is nothing but "implicit cooperative financing" arranged by the main banks.\textsuperscript{18}

Cooperative financing has been a central pillar of industrial finance since the pre-war years. It applies virtually to all Japanese corporations except for those that maintain the policy of 'no bank lending'.\textsuperscript{19} In the pre-war period, one important institution built by the bank syndicates was the loan alliance (yūshi renmei). A Bank of Japan publication records its performance as an important success:

As early as in the latter half of 1930, yūshi renmei had achieved remarkable success (sōtōna seika) in improving financial states of the corporations engaged in national undertakings (jigyō kaisha) ... through forming loan syndicates with commercial and trust banks. In offering syndicated loans, banks gave up their previous tendencies of emphasizing profits but instead began to involve in management affairs such as conditional appointment of directors, approval of business plans, and limitation of dividend rates. These new roles for banks were not peculiar to the loan alliances but were becoming applicable to other financial institutions. Thus it must be viewed that, after the lifting of the embargo on gold exports, the relationship between banks and the corporations engaged in national

\textsuperscript{17}Takeda, 1995, p. 99.

\textsuperscript{18}Ibid., p. 100.

\textsuperscript{19}A typical example of the corporation which has the no-bank-loan policy is Matsushita Electric.
undertakings became very close.\textsuperscript{20}

A similar arrangement is found in the post-war period. Between 1947 and early 1950, most cases of cooperative financing were coordinated by the good offices of the Bank of Japan. As the Supreme Command of the Allied Powers (SCAP) government discouraged BOJ good offices, cooperative financing came to be initiated by commercial banks, but with the assistance of government banks.\textsuperscript{21}

The role of the managing bank of industrial corporations was mostly assumed by latter's 'main banks'. When Yawata Steel was in a financial straight jacket during the Korean War, the company suggested to its rival corporations (that is, Fuji Steel and NKK) that they take joint action in asking for financial assistance from the government. In January 1952, the presidents of Yawata, Fuji, and NKK invited the BOJ governor to a meeting and asked that BOJ's good offices of cooperative financing be reinstituted. The BOJ agreed to this, and its good offices restarted from that year. Based upon this decision, the BOJ invited the members of the loan syndicate for Yawata Steel to an informal meeting and asked them to elect a managing bank and suggested that the managing bank take the responsibilities of guidance and supervision of syndication. At this meeting, Industrial Bank of Japan (IBJ) was elected as the managing bank. But as IBJ's share


\textsuperscript{21}Takeda, 1995, p. 102.
in the loan syndicate for Yawata Steel was not great, it renamed its title as the "Good Offices Bank" (osewa yaku ginkō).22

A quick investigation of relevant statistical records provides the evidence that the following firms which maintain a group of financial institutions as sources for borrowing on a continuous basis (see Appendix 2-1 for details):23

<table>
<thead>
<tr>
<th>Company</th>
<th>Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nissan Motor</td>
<td>8</td>
</tr>
<tr>
<td>Fuji Film</td>
<td>8</td>
</tr>
<tr>
<td>Kumagai Gumi</td>
<td>8</td>
</tr>
<tr>
<td>C. Itoh</td>
<td>9</td>
</tr>
<tr>
<td>Kubota Steel Works</td>
<td>7</td>
</tr>
<tr>
<td>Komatsu, Ltd.</td>
<td>8</td>
</tr>
<tr>
<td>Kao</td>
<td>7</td>
</tr>
<tr>
<td>Takeda</td>
<td>8</td>
</tr>
<tr>
<td>Lion</td>
<td>8</td>
</tr>
<tr>
<td>Wacoal</td>
<td>9</td>
</tr>
<tr>
<td>Mitsubishi Heavy Ind.</td>
<td>9</td>
</tr>
<tr>
<td>Yakult</td>
<td>5</td>
</tr>
<tr>
<td>Toshiba</td>
<td>9</td>
</tr>
<tr>
<td>Meiji Milk</td>
<td>8</td>
</tr>
</tbody>
</table>

These randomly chosen examples represent divergent industries ranging from the basic to consumer-oriented industries. Furthermore, some firms belong to the so-called keiretsu, while others do not. The banks that consist of members of these informal syndicates are mostly city banks. Therefore it is safe to argue that cooperative financing in the form of quasi-standing syndicate is a rule in industrial financing in Japan. What is important with regard to cooperative financing is that commercial banks that are direct rivals remain in the cooperative loan arrangements for specific industrial corporations for extended


23A most useful source is the Kaisha Nenkan [Annual Corporate Reports] published by the Nihon Keizai Shimbun Sha.
periods of time.

A similar relationship supporting the above observation is the participation of rival financial institutions as shareholders in the same rival corporations (even though it is not a spot deal). For instance, the following direct rivals maintain shareholding positions on a long-term basis in Mazda Corp., which belong to the Sumitomo Keiretsu:

- Sumitomo Trust Bank
- Mitsubishi Trust Bank
- Mitsui Trust Bank
- Toyo Trust Bank
- Yasuda Trust Bank
- Sumitomo Marine Insurance
- Yasuda Marine Insurance
- Tokio Marine Insurance
- Mitsui Marine Insurance.

Similarly, Mitsubishi Corporation has large shareholders such as:

- Mitsubishi Bank
- Sanwa Bank
- Tokai Bank
- Fuji Bank and
- Sumitomo Bank

who are all rival city banks.²⁴

C. The Middle Ground

In the middle ground between very long-term deals involved in research, development, and production of basic or strategic equipment for both public and private sectors and short-term

²⁴Extracted from the data suggested in Sheard, 1994, pp. 315-6.
deals involved in industrial financing, there is a wide spectrum of industries and markets that contain the elements of opportunity sharing. In these middle-ground cases, the logic and features of opportunity sharing at both industry-level and project-level are intermingled in varying degrees. Both patterns of joint action and market division/sharing are also reflected in different combinations. A careful scrutiny of relevant cases leads one to recognize that there are three major patterns of institutions or arrangements of opportunity sharing: research association, cartel, and inter-competitor consultation (dangō).

1. Research Associations

The sharing of commonly pursued values in research and development such as access to government financial and non-financial supports, proprietary knowledge, and proven know-how takes place largely in collaborative research associations in Japan. Successful cases of research associations have abounded during the post-war period.

The cooperative research project on color television technology is a good case in point. Japan had adopted the NTSC (National Television System Committee) standard developed in the United States for color television broadcasting. In 1953, the NHK Technology Research Center moved its research focus to the NTSC technology. The next year, Nihon Victor received a subsidy
from MITI to work on the prototype of the color television receiver using the NTSC method. In doing this, Nihon Victor teamed up with Matsushita Electric.\textsuperscript{25} Cooperation on a larger scale was launched with the establishment of the Color Television Study Council (kara terebijon Chōsakai) in June 1957, replacing an informal organization called Color Television Consultation Meeting (Kara Terebi Kondankai).\textsuperscript{26} The Council included members from MITI, MPT, NHK, several industrial associations, and manufacturing firms.

In the course of studying and reviewing diverse technologies and standards, a key concern emerged at the Council. The concern was about producing key equipment by domestic manufacturers (kokusanka). The intensest focus of this kokusanka interest was on the cathode ray tube (CRT). In May, 1957, the Color CRT Experimental Council (Kara Jūjōkan Shisaku Iinkai) was slated at the initiative of the Electric Wave Technology Association (Denpa Gijutsu Kyōkai). With a MITI subsidy of 16 million yen, the Association had started a cooperative "Study Concerning the Building of Color Receiving Tube Experimental" with the members from MITI, MPT, NHK, the tube makers (Toshiba, NEC, Hitachi, Matsushita, Nihon Columbia, Kobe Industry, and Mitsubishi Electric), and parts makers (e.g., Asahi Glass, Dai Nippon Paint, 

\textsuperscript{25}Hiramoto, 1994, p. 84.

\textsuperscript{26}The proclaimed goal: "to contribute to wholesome (kenzenna) development of the color television manufacturing and broadcasting industries in Japan by performing investigations and reviews of manufacturing and application technologies and standards required for color broadcasting television" (Ibid., p. 85).
MITI's policy for cooperative R&D was quite strong. Mentioning the subsidy application from the Association, the MITI official in charge said, "Some makers applied for the same subsidy. But MITI wants that all CRT makers start research under the unified initiative of the Association. We wish that the Committee will accomplish its goal through cooperative research."

On another occasion, MITI further emphasized:

MITI will not provide subsidy to the firms which prefer competition or which only aims at the demonstrative effect of the MITI subsidy... We wish that competition will be absorbed into the current framework of cooperation.\(^{28}\)

Driven by MITI policy and cooperative research, Toshiba succeeded in developing its own model of a tube in February 1958 and the television set consisting entirely of domestic parts in 1959.

Collaborative research among rival computer makers is another typical example. In the face of a new powerful mainframe computer developed by IBM (System 370) in 1970, six Japanese computer developers were paired at the suggestion of MITI as follows:

<table>
<thead>
<tr>
<th>Fujitsu</th>
<th>Hitachi</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>Toshiba</td>
</tr>
<tr>
<td>MELCO</td>
<td>Oki</td>
</tr>
</tbody>
</table>

Even after Oki withdrew from the mainframe computer business, the cooperative relationship between NEC and Toshiba continued. NEC and Toshiba later teamed up to form a research association called

\(^{27}\)Ibid., p. 87.

\(^{28}\)Cited in Ibid., p. 88.
NEC-Toshiba Information Systems (NTIS) in March, 1974. As a similar arrangement, Fujitsu, Hitachi, and MELCO formed the Computer Development Laboratory (CDL).\textsuperscript{29}

A similar pattern of cooperation is found in the project on the standardizing of a specific interface equipment between computers and measuring instruments called the general-purpose interface bus (GPIB). Six direct rival firms still work together, with responding shares of the market, forming a unified line against a large foreign competitor, Hewlett Packard.

The re-organization of former successful research associations demonstrates the viability of the whole notion of collaborative research and development in Japan. One of the most famous and successful research associations in Japan would be the VLSI project. Established in 1976 by MITI, VLSI helped Japanese semiconductor firms occupy the dominant positions in the world semiconductor market.\textsuperscript{30} In spite of its great success, the project was dissolved in 1990, largely due to criticisms and pressures from both inside and outside of Japan for political and international-trade reasons. After the dissolution, however, challenges from American, Korean, and Taiwanese semiconductor firms made both the Japanese government and semiconductor firms consider the need to revisit the collaborative arrangement.

\textsuperscript{29}Fransman, 1990, p. 80.

\textsuperscript{30}For full accounts of VLSI, see Okimoto, Sugano, and Weinstein, 1984; and Sigurdson, 1986.
Indeed, on October 13, 1995, it was reported that ten Japanese semiconductor-related firms such as NEC, Hitachi, and Toshiba would create a joint company and a research association with the support from MITI. The joint company, opened in February, 1996 through joint capitalization by the ten firms, will focus on production testing and evaluation of the 256 mega-bit DRAMs. Additionally, a research association was to begin operations in March, 1996, reportedly modelled after Sematech of the United States, to perform collaborative research and development of 1 giga-bit DRAM.\textsuperscript{31}

During a three-decade period since the creation of the famous Mining and Industrial Technologies Research Association System (Kōkōgyō Gijutsu Kenkyū Kumiai Seidō; ERAs), there were a total of 107 ERAs were slated, among which only 19 were funded by the government. To a large extent, all of these ERAs share the elements of opportunity sharing illustrated in the above cases. It is also important to note that the Japanese ERAs were formed not merely in high-technology industries. ERA projects have been instituted in various industries, ranging from high-technology to low-technology, and from emerging to declining industries.\textsuperscript{32} In

\textsuperscript{31}Asahi Shimbun, 13 October 1995.

\textsuperscript{32}Most of the ERA projects studied and publicized so far belong in the electronics industry category, which had 46 projects involving 173 firms. Cooperation and competition between rival firms in the Japanese computer and semiconductor industries have been well documented so far (See, for example, Okimoto et al., 1984; Anchordoguy, 1989). Other than the well-publicized research programs such as VLSI and the 5th Generation Computer, leading electric manufacturers (Toshiba, Hitachi, Fujitsu, MELCO, and NEC) have continued to form collaborative arrangements such as:
the heavy-manufacturing industry, for instance, five representative firms -- Mitsubishi Heavy, Kawasaki Heavy, Ishikawajima-Harima Heavy, Hitachi Shipbuilding, and Mitsui Shipbuilding -- have repeatedly participated in collaborative R&D projects. Collaborative R&D is also popular in the chemical industry. The four major firms of the industry -- Toray, Asahi Chemical, Teijin, Mitsubishi Rayon, and Tōyō Chemical -- joined collaborative research. In the steel industry, the big 6 of Shin Nippon Steel, Nihon Kökan, Kawasaki Steel, Kōbe Steel, Sumitomo Metals, and Nissin Steel have formed several collaborative R&D arrangements. Consumer industries are not

- comprehensive vehicle control (1974) (except Fujitsu)
- fiber optics applications system (1981)
- space environment utilization (1985)
- fiber optics (1985)
- earth resources remote sensing (1985)
- space communications (1986)

Their major collaborative R & D projects were:
- high-temperature systems (1974)
- high-efficiency gas turbine (1978) (except for IHI)
- mangan mining technology (1982)
- high-reliability vessel-supported plant (1983)
- super-heat pumps (1985) (except for KHI)

Several examples of ERA are:
- high-molecular technology (1981)
- high-efficiency fiber (1983)
- high-molecular technology applications (1990)

Major examples are:
- nuclear steel making technology (1974)
- new refining technology (1982)
- next-generation nuclear machinery (1985)
exceptions. For instance, in the food processing industry, Ajinomoto, Meiji Food, and Yukijirushi Food have participated in collaborative research projects.\textsuperscript{16}

Another important point to note is that collaborative research and development does not always require formal 'associations'. Joint research and development in the shipbuilding industry illustrates this. The introduction of the bloc building method had a considerable positive effect on the development of shipbuilding. The new approach adopted by Japanese shipbuilders was to build steel ships made of blocs based on an advanced welding technology. The welding technology was studied by researchers from rival shipbuilders with the assistance of scholars in 1948 and 1949. The central locus was the Steel Ship Manufacturing Research Committee (Kōsen Kōsakuhō Kenkyū Iinkai) of the Shipbuilding Association (Zōsen Kyōkai). Each member firm had sent their researchers to the cooperative research project on the bloc building method. In this enterprise, "the member firms had fed one another the performance data, which otherwise were to be handled as industrial secrets."\textsuperscript{17}

\textsuperscript{16}Representative ERA projects are:

food processing bioreactor (1984)
food processing on-line censor (1986)
super separator technology (1988).

\textsuperscript{17}Moritani, 1978, p. 94.
2. Cartels

The sharing of markets among rival firms also takes the form of coordination of investment or price in a given market or industry. This practice can be summarized into the notion of cartel. The acceptability of cartels or cartel-like behaviors by the general public in Japan seems to be reflected in social education. For instance, Japanese schoolbooks, which are subject to comprehensive government screening, teach that cartels are something desirable for the society. The Gendai no Shakai (Modern Society), a civics text for junior high school pupils, describes cartels in its 1966 edition as follows:

The good points of cartels are (1) they are able to introduce advanced technologies by using big capital; (2) they are able to produce better quality products at a lower production cost, thus reducing the selling price; and (3) they enjoy strength to fight recessions; and (4) they help the country boost its exports.  

Numerous cartels have existed since the revision of the Antimonopoly Law in 1953. Two kinds of cartels have been particularly conspicuous, that is, recession cartels and rationalization cartels. With the weakening of the Fair Trade Commission, "there were several hundred to more than a thousand legal cartels, depending on the year." Needless to say, these two kinds of cartels were formed and administered by MITI. The term 'rationalization' here has a particular implication for

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managed competition. As Chalmers Johnson interprets, "rationalization implied a lessening of economic competition. In Japan rationalization came increasingly to emphasize that competition among enterprises should be replaced by 'cooperation' (kyōchō), and that the purpose of business activities should be the attempt to lower costs, not make profits."  

Cartels or cartel-like behaviors are formed not only under the leadership of the government but also through autonomous coordination (jishu chōsei) among market actors. For instance, when the competitive atmosphere around the development of ships to India as Japanese official development assistance (ODA) became too keen 1958, the Shipbuilding Industrial Association decided to apply autonomous coordination. The Association had two options of selecting bidders in terms of tendered price or pre-determination of bidding candidates. The Association finally adopted the latter method and named Harima Shipbuilding, Hitachi Shipbuilding, and Fujinagata Shipbuilding as candidates and thus formed a cartel.  

On another occasion when market competition became stiff again, the Association emphasized the basic rule of autonomous coordination as follows:

Autonomous coordination in the shipbuilding industry aims at establishing the business order (eigyō jitsujō) by preventing disorders caused by excessive competition. Wholesome and free competition according to legitimate business activities is not discouraged. However, this Association is determined to see to it that shipbuilding companies mutually respect others' efforts and therefore

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41 Takeda, 1995, p. 139.
realistic equality (jissitsuteki kōhei) of business opportunities is maintained. To this end, it is advised that shipbuilders exercise the spirit of autonomous cooperation and promote negotiations accordingly.\textsuperscript{2}

Cartels sometimes come about from loosely coordinated investments. The post-war recovery of the shipbuilding industry in Japan had took place around 1948. One key to this successful renaissance was a cooperative investment coordination with government assistance. The embodiment of such a cooperative arrangement was the Shipbuilding Corporation (Senpaku Kōdan) established in 1947. The Shipbuilding Corporation’s mission was to promote the building of large-scale ships with the financial aid of government. The key formula of the cooperation was the joint investment. During the first "planned shipbuilding" (keikaku zōsen) period, a total of 23 ships were built with 70% of the funds coming from the Corporation and the remaining 30% from the shipbuilders. These ships were then owned jointly.\textsuperscript{4}

Another typical example of market ordering through investment coordination is the petrochemical industry. The industry is often referred to as the typical success story of MITI’s intervention. The petrochemical industry was appointed as a "new industry" in the mid-1950s when MITI decided on the "Measures to Promote Petrochemical Industry" on 11 July 1955. To order the market, MITI formed the "cartel through administration guidance" in December 1964. Of particular importance in

\textsuperscript{2}Cited in Takeda, 1995, p. 140.

\textsuperscript{4}Moritani, 1978, p. 91.
maintaining the cartel was the "Petrochemical Cooperation Discussion Group" (seikiyukagaku kondankai) established by MITI on 19 December 1964.44

The production volumes of ethylene is an interesting instance. By the mid-1960s, the oligopoly of the two giants of the 1950s (i.e., Mitsui Petrochemical and Sumitomo Petrochemical) was dissolved to open the market to new entrants such as Mitsubishi Petrochemical, Nippon Petrochemical, Tozen Petrochemical, Daikyoka Petrochemical, Maruzen Petrochemical, Kaseimizushima, and Idemitsu Petrochemical. While Mitsui and Sumitomo had taken 63% and 37% respectively of the ethylene market in 1958, for instance, the nine companies later came to have shares ranging from 6% to 22%.45 It was with these nine firms that the "Ethylene 300,000 Ton Production System" (echiren sanjūman ton seisai taisei) was created in 1967. As more chemical firms found entry into the ethylene market crucial for future development, MITI had to find certain ways to manage the entry barrier while encouraging the existing firms to reach the economy of scale. At that time, it was estimated that eleven factories of the nine firms each had an average annual production capacity of 120,000 tons. In order to enable the Japanese petrochemical firms to survive in international competition, MITI decided to induce the firms to make investments for an annual production capacity of 300,000 tons each. Amaya Naohirō, head of

the MITI’s first enterprise section, called together the representatives of the industry for consultation and drew the agreement to raise the production capacity to an annual total of 300,000 tons. In order to expand the production capacity rapidly, however, investments were needed. Competition for government financial support was then managed in the form of "turn taking" (rinpan tōshi).46

The steel industry’s high fixed costs make cartel-based pricing almost inevitable not only in Japan but also in virtually every other major economy. That the Japanese steel industry remains as cartelized as ever was specifically acknowledged in 1993 by Nakamura Hayaō, a former Nippon Steel executive who now runs an Italian steel giant. In an interview with the Wall Street Journal, he declared: "In Japan, if the [steel] market goes down too much, the big five steel-makers meet, agree on acceptable price levels, and send inspectors to check on each other twenty-four hours a day."47

3. Dangō

The management of competition among rival market actors seems possible for another reason -- inter-firm conference and coordination. There is a long tradition of opportunity sharing

46Ibid., p. 54.
47Cited in Fingleton, 1995, p. 239.
based upon discussion and consultation, referred to as moshi awase (agreement through conference) or dangō (conferred bidding or decision). As a former NASDA official who is currently a senior advisor of Toshiba says the essential logic of managed competition in the space industry is dangō, no more and no less. 48 The following description illustrates the way in which dangō succeeds:

When rival firms confer regularly, and exchange their opinions on the direction markets are currently moving, on future demand expectations, and on future capacity and the like... one needs hardly stress again that this will influence the behavior of each firm, and hence influence supply and demand conditions in the industry as a whole... When rival firms confer with each other or with the government on a regular basis, the information exchanged is not limited that specifically to intra-industry coordination. 49

Dangō in Japan is historically marked by a specific practice. This aged practice is the appointed bidding (shimei nyūsatsu) which is the opposite of competitive bidding. In this practice, the procurer or the owner of a project will invite several specific firms (tokutei tasū) to offer bids. 50 If several firms offer bids, the procurer will study the bids (mitsumori awase) and select the best one. After this process, one firm will be selected for contract at the liberty of the

48 Interview, Senior Advisor, Toshiba Corp., Tokyo, 29 January 1995. For the (sarcastic) economics of dangō, see Takeda (1994). For the "nationalist" (kokka shugi) defense of the dangō practice, see Iida, 1994, pp. 92-100.

49 Miwa, 1988, p. 491.

procurer (zui keiyaku).\textsuperscript{51}

The persistence of dangō can be attested to by the strong defense suggested by Iida Tsuneō, an outspoken defender of the Japanese systems. In his recent book entitled Nakigoto Iuna [Don’t Complain], Iida defends dangō as a "system to relieve the weak" (jyakusha kyūsai sisutemu).\textsuperscript{52} To cite his key sentences:

According to the Japanese dictionary, dangō means talk (dan; hanashi) to each other (gō; ai). More specifically, it means that "competitors have prior discussions as to bidding prices etc. at the time of auction or open bidding. Here we need to pay attention to the fact that talking to each other (hanashi au koto) is not an evil but a virtue... Free competition is based on the philosophy of "the stronger prey upon the weaker" which exists for twenty to thirty percent of the society... Those who participate in dangō ought to agree to the tacit contract that stability of the society should be maintained [taking precedence over other motivations].\textsuperscript{53}

He had already spoken strongly against "Japan bashing" (Nihon tadaki) based on liberal economic ideas with such words as:

I strongly feel that views such as 'the Japanese economy is ridden with cartels, and the "oligopoly disease" affects the core of the economy' and the like .. are results of intellectual laziness... Much too much credence is given to the pet illusion of 'progressive' intellectuals that if we 'destroy' these 'monopolies' all our problems will be solved.\textsuperscript{54}

In his Dangō no Keizaigaku [The Economics of Dangō], Takeda Haruhito offers a more concrete, operational definition of

\textsuperscript{51}Ibid., pp. 44-45. Literally, zui means voluntarily or at libertry and keiyaku, the contract.

\textsuperscript{52}He argues that his book reflects "anti-opinion" theory of capitalism.

\textsuperscript{53}Iida, 1994, pp. 92-99.

\textsuperscript{54}Cited in Pyle, 1992, p. 53.
dangō -- but from a critical perspective.\textsuperscript{55} According to him, dangō simply means the limitation of free competition, which is more or less characterized by the paralysis of the three key principles of the antimonopoly law: openness, freedom, and fairness.\textsuperscript{56}

II. INTERNATIONAL DISTINCTIVENESS

The notion of the uniqueness or peculiarity of Japanese institutions and practices has been a source of controversy. In this study, I do not support the contention of Japanese uniqueness whole-heartedly. If there are areas in which Japan stands out compared to other advanced economies, however, managed competition in general and opportunity sharing in particular are the ones that require scrutiny and explanation. In what follows, I shall compare Japan and other advanced economies on two levels of research and development, and industrial finance. Throughout the comparison, it will be demonstrated that the two forms of opportunity sharing, i.e., joint action and work dividing/turn taking, through research associations, cartels, or dangō are scarcely found in other advanced economies.

\textsuperscript{55}Takeda, 1994.

\textsuperscript{56}Ibid., p. 12.
A. Research and Development

Collaborative research and development among rival corporations are not entirely missing in other advanced economies. On the contrary, some note that Japan was a latecomer in collaborative research and development. For instance, Kodama argues that the birthplace of the research association was Britain. In his view, however, "the research associations active in Europe were intended mainly to support and enhance the technological ability of small businesses lagging behind in modernization. The purpose of Japanese cooperative research, by contrast, was to raise the technological expertise of major firms to the top of the world level."57 The United States also had joint R&D ventures even before 1900.58 As such, it seems that the core issue in international comparison of collaborative research and development is less regularity than the nature of the activity.

The United States presents a stark contrast to Japan for several reasons. A notable difference from the American research associations is that the Japanese firms work together on the

57Kodama, 1991, pp. 84-5.

58In this century, for example, five large oil companies and two plant contractors had formed the Manhattan Project to develop a fluid bed catalytic cracking process in the 1930. The American synthetic rubber research program, which was set up during the war period (1942-56), was one of the much debated case of collaborative research program.
technologies up to the point just short of market development. The relatively larger extent of which co-applications of patents are made by rival corporations in Japan is a strong piece of evidence.\textsuperscript{59} In contrast, American cooperative research is largely focused on basic research and not on the point of creating patents.\textsuperscript{60} This point has an important implication for whether rival corporations share proprietary (or non-public-domain) knowledge or not.\textsuperscript{61} In the United States, this pre-competitive research is usually carried out in university laboratories under the sponsorship of several private corporations. The orientation towards pre-competition research among rival corporations is the case in European countries as well.\textsuperscript{62} It is also widely reported that collective R&D ventures in the US and the UK were transitory and short-lived.\textsuperscript{63}

On the contrary, many researchers report that collaborative

\textsuperscript{59}Fransman, 1990.

\textsuperscript{60}Collaboration among rival firms in proprietary research has begun to take in the United States. The major factor for this renaissance is the challenges from Japan and East Asian newly industrializing economies (NIEs). The Semi/Sematech project in the semiconductor area is a good example.

\textsuperscript{61}The fact that focus is placed on applied development rather than on basic research can be a trouble for conventional economists as it can facilitate collusion among participating firms. For this point, see, for example, Katz, 1986; Ordover and Willig, 1985; and Yamamura, 1986.

\textsuperscript{62}For this characterization, see Katz, 1986; Bozeman, Link and Zardkoohi, 1980; and Grossman and Shapiro, 1985. For the UK case, see, for example, P. Johnson, 1971/2.

\textsuperscript{63}P. Johnson, 1971/2; Freeman, 1991.
R&D in Japan is applied rather than basic research. Not only are they oriented to application, Japanese collaborative R&D efforts are also made for development rather than research. In other words, Japanese rivals share the opportunities that can be 'appropriable' and 'proprietary' in other countries. This characteristic is manifested in the ways Japanese policy makers define 'science and technology research that requires government action'. According to a scientist of the Science and Technology Agency (STA), science and technology research demanding government involvement consists of (1) the difficult technologies of which the mastery will improve national prestige, (2) the specific technologies that have immediate implications for national security, and (3) the technologies, of which the neglect will hamper the national interest.

This difference could be explained by the nature of research orientation. Research in the United States focuses on 'technical breakthrough' while that in Japan focuses on "follow-through." Yet a more important difference is lies in the content of collaboration. In the face of industrial challenges from abroad, collaborative R&D arrangements have been made in the United States recently. The enactment of the National Cooperative

See, for example, Rokuraha, 1985; Samuels, 1987; Anchordoguy, 1989; and Cusumano, 1991.

Interviews, the National Institute of Science and Technology Policy (NISTEP), the Science and Technology Agency (STA), Tokyo, March, 1992.

Research Act (NCRA) in 1984 was particularly important for facilitating resource pooling into R&D consortia. This action led to the formation of such consortia as Sematech and MCC. But the effectiveness of these consortia are under serious question. To be sure there are some elements of collaboration in the United States between rivals on such projects. But the focus is invariably laid on the sharing of budgetary burden rather than the sharing of scarce business opportunities.

Another important comparison between Japanese and US collaborative R&D practices can be made with regard to the defense-related strategic industries. As suggested above, collaborative R&D projects in the military industries such as warship and aircraft development and production were widespread in Japan before and during the Pacific War. These projects also served as prototypes for post-war consortia and collective projects.

In reality, collaborative R&D projects in these industries are found in the United States too. Just as the Japanese defense procurers were gathered to work together under the guidance of the Imperial Navy or the Imperial Army, US firms collaborated to pool their resources in dealing with production problems under the leadership of the Aircraft War Production Council (AWPC) in April, 1942. By March, 1943, key aircraft firms such as Douglas, North American, Consolidated, Lockheed, Northrop, Vega, Vultee, and Boeing were under the cooperative management of the

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*See a full account on this issue, see Ferguson, 1996.*
AWPC. A key function of this cooperative arrangement was the sharing of information which included "a patent pooling agreement," which had actually been in existence since 1917."* The AWPC organization does not seem radically different from the Japanese war-time co-production organizations.

Yet there are two critical differences. First, in terms of the way they were created, the AWPC was a culmination of the meetings of interests between individual entrepreneurs. As Ferguson notes, it was an association of like-minded founders of corporations such as Donald Douglas (Douglas), J.H. Kindleberger (North American), Harry Woodhead (Consolidated), Robert Gross (Lockheed), LaMotte Cohu (Northrop), Courtlandt Gross (Vega), and Richard Millar (Vultee). The motivation was inherently economic as they were taking care of their own interests even though there could have been social benefits of such collective action. In contrast, Japanese firms flocked together not at the initiative of their founders nor the shareholders. Their decisions were more socio-political in the sense that corporate interests were not primary reasons of collective action.

A more important difference, however, is that the AWPC was the last of such kind of organization in the United States, due to the governance of the Antitrust Act in the post-war period. As Wells and Hastings note, there was no consortium made among US aerospace firms in the post-war US history."* On the other

* Ibid.

hand, the Japanese war-time arrangements were not final but served as the basic framework for post-war variants.

In Europe, cooperative R&D arrangements are not common either. The United Kingdom might actually be considered a pioneer in collaborative R&D as it had formed cooperative research associations shortly after World War I. This arrangement was then emulated by other European countries. Britain also had formed collaborative research program during the World War II period.\textsuperscript{70} The overall share of research associations of the entire British national research and development is however rather small.\textsuperscript{71} Like the United States, Britain also responded to challenges from the outside by increasing government-sponsored R&D initiatives. Entering the 1970s, particularly in the Thatcher government, Britain began to cope with the threats on her high-technology industries based on computers and information technologies. A path-breaking move in this new milieu was the establishment of the Alvey Research Program in 1983, a government-funded research program was slated, as recommended by Sir John Alvey's government-commissioned report and the Electronics Components Sector Working Party. Alvey Research Program is not alone as a government-funded collective research enterprise. In the area of manufacturing integrated

\textsuperscript{70}For example, the radar technology was collectively researched at the Government Telecommunications Research Establishment (Freeman, 1991, p. 501).

\textsuperscript{71}See, for example, P. Johnson 1971/2.

71
circuits, the Microelectronics Industry Support Program (MISP) was slated with the funding of some 24 million pounds for 1978-83. In addition, the Microprocessor Applications Project (MAP) was created. But, compared to Japan, the sheer scale of collective research at the national level is small.

Collaborative R&D ventures among rival French corporations are not common. This relative weakness in collaborative research and development must be accounted for by the relatively low degree of research at the corporate level in France and its corporations' dependence on the state. With heavy penetration of the state into private businesses through both commercial banks and quasi-public financial institutions, French firms remain highly dependent. These firms, including the "national champions" of each industry, are not internationally competitive. The national champions approach, together with state protection, has resulted in weak competition between firms in France. And recent modification of the national champions approach has not promoted domestic competition; instead it brings about alliances with foreign firms through supranational organizations such as the European Research Coordination Agency (EUREKA). Dependence on supranational coordination is also the case in Germany, even though collaboration among direct domestic rivals is not

72While state intervention in Japan is market-conforming, Zysman contrasts, "the French often sought to override the market by sheltering chosen companies from competition or by promoting favorite projects that did not fit into any strategic or commercial plan" (1983, p. 235).
prevalent. The Mega Project established by Siemens and Phillips in 1984 to develop new integrated circuits and the Joint European Submicron Silicon Initiative (JESSI) in which Siemens, Phillips and SGS-Thomson participate are only a few known cases.

It seems practically impossible to list all collaborative research and development projects carried out in the United States and Europe. One thing is clear, however, the sheer prevalence of collaborative R&D by rival corporations in Japan does not allow any meaningful comparison with other countries.

B. Industrial Finance

Cooperation among commercial banks is much more frequent in the international milieu than in the domestic one. Numerous loan syndicates are often formed among banks across national borders, but not usually among banks of a single country. In order to finance a project of the Hutchison Telecommunications, Ltd. (U.K) in January, 1996, for instance, J.P. Morgan and Chemical Bank decided to lead a syndicate consisting of several dozens of banks, which all together fell just short of international who's who in banking. The banks included are:

ABN AMRO
Citibank
Dresdner Bank
HongKong Shanghai Bank
Nationsbank
Sumitomo Bank

Canadian Imperial
Commerzbank
GoldmanSachs
ING Bank
NatWest
Tronto-Dominion
West LB Credit Suisse
DG Bank Hypotheken Bank
Bayerische Landesbank Credit Lyonnais
Dai-ichi Kangyo Bank Fuji Bank
Helaba Finance Industrial Bank of Japan
Mitsubishi Bank Mitsubishi Trust Bank
Sakura Bank Sanwa Bank
Societe Generale Banca Commerciale Italiana
Banca Nazaionale del Lavoro
British Linen Bank CIC Union Europeerie
Creditanstalt DBS Bank
DNI Bank Landesbank Berlin
Rabobank Nedeland Royal Bank of Canada
Tokai Bank Union Bank of Switzerland.

In this one-off "spot" deal which will gather 1.2 billion British pounds, each member bank was reported to lend an amount of 50 million pounds or more for a tip front fee and interest gain. It is apparent that the motivation for each bank to participate in the syndicate is nothing but money making, which is radically different from the motivations of the domestic loan syndicates of Japan. In particular, the multi-national bank syndicate has no such motive as the supporting of manufacturing firms, an important for Japanese financial syndicates. As a piece of evidence, a loan syndicate managed by Fuji Bank funded 200 million US dollars to another commercial bank, the First National Bank of South Africa in 1996. The syndicate members were:

Development Bank of Singapore
Dresdner Bank
ING Bank
Midland Bank

73 The Bank Loan Report, 8 January 1996.
74 Ibid.
The remarkable contrast between Japan and other advanced countries is to be found in the nature and style of industrial financing itself. A quick survey of the practices in other advanced countries confirms the relative abundance and scale of cooperative financing for Japanese corporations.

First of all, Japanese corporations rely heavily on external funds. France is the only match for Japan on this regard. This finding is also confirmed by John Zysman. He classified Japan and France, together with Germany, as economies with the "credit based" financial systems.\textsuperscript{75} In 1985, for instance, both Japanese and French business sectors obtained 42% of their needed funds from the outside. However, Japanese corporations were much more dependent than French ones on bank loans. This means that the whole backdrops against which cooperative financing is discussed are different across economies.

Industrial financing in the United States is basically capital-market based, and hence the role of financial intermediaries in corporate financing is limited. The sources of industrial financing are diffused, and competition between financial intermediaries is keen.\textsuperscript{76} The only area of industrial finance where collaboration between rival banks is possible is in term loans. Term loans were introduced in the 1930s as a means

\textsuperscript{75}Zysman, 1983.

\textsuperscript{76}As Zysman succinctly summarizes, "the American system is characterized by a multiple and fragmented arm's-length relation between the executive and the financial system, and an arm's-length market relationship between financial institutions and the industrial sector" (ibid., p. 272).
to "offset the poor levels of the loan demand at that time." 77 Against this background loan syndicates were created. In the syndicate, one bank assumes the role of "lead" or "managing" bank. 78 The lead or syndicate manager bank is responsible for "recruiting a sufficient number of other banks to make the loan, negotiating details of the agreement, and preparing documentation." 79 But the lead bank's most important function is to provide credit information of the borrower to participating banks. 80 This role is much more minimal and technical than the managing bank of Japanese loan syndicates that function as the bridge between government and business as well as manager of the syndicate.

British industrial corporations traditionally depend little on external financing, be it on equities or loans. The United Kingdom shares several important features with the United States in industrial financing. The similarities include a highly

77Wilson, 1986, p. 294. At that time, stock markets were also unfavorable to new issues, leaving larger roles for commercial banks. In terms of scale, however, term lending did not expand as desired. It was after World War II that term loans were expanded in scale. A major reason for the expansion was that industrial lending became too large for any single bank to handle and could be shouldered by multiple banks.

78As Wilson (1986) notes, "Typically, a syndicate might be between five and ten banks, with the giant corporations using perhaps over 100 banks. The effective maximum maturity for such loans seems still to be about ten years, though occasionally this limit is exceeded" (p. 294).


80It is a matter of debate whether the lead bank behaves "opportunistically" in carrying out these managing roles. For a test of this opportunism, see Simons, 1993.
developed securities market and specialization of deposit-taking institutions.\textsuperscript{81} In addition, Britain has not developed nationally operating commercial banks like the Japanese city banks.\textsuperscript{82} Therefore, it is a logical consequence that British commercial banks find little room for collaboration to provide funds to certain industrial corporations. Even compared to the United States, bank lending in Britain is more seldom. Term lending, the only practice in which competing banks can join a collective arrangement in the British financial structure, was introduced relatively late to Britain.

In France, long-term industrial financing has been provided by special investment banks (\textit{banques d’affaires}) such as Paribas and Suez.\textsuperscript{83} Not only are these French investment banks engaged in long-term lending but they also initiate loan syndicates with other types of banks. As J.S.G. Wilson notes, "Often a \textit{banque d’affaires} would provide investment finance in conjunction with other banks and associates, and consortia and syndicates

\textsuperscript{81}Developing around the "putting out" system, British firms in the early period of industrialization had obtained funds from retained earnings and the solidification of funds from families and friends, and then later developed into joint stock companies (Hall, 1986, p. 38).

\textsuperscript{82}In addition, because small British firms did not depend on external financing, ties between industrial corporations and banks have not developed into strong ones as those in Germany, in terms of both share holding or lending. For a detailed account, see, for example, Zysman, 1983, Chapter 4; Hall, 1986, Chapter 3).

\textsuperscript{83}Zysman referred to as one of the tools of the expansion of state power in the French financial system (p. 111).
organized by a chef de file were very common. But it is hard
to determine whether such practices constitute a major conduit of
fund mobilization for a majority of industrial corporations. One
response to this question is the fact that French banks have been
recently taking an increasing role in leading (and co-leading)
syndicated Euro-credits and Euro-loans. French banks are also
reported to participate actively in corporate acquisitions
through syndicated loans. Regardless of the magnitude of such
practices, however, international syndicates are out of our
purview because they do not involve the issue of competition and
cooperation between direct, domestic banking rivals.

When it comes to cooperative financing, Germany has larger
resemblance to Japan than other advanced countries do. The close
relations between banks and industrial firms are well known.
Frequently characterized as 'universal banks', German banks not
only do term lending but also raise industrial capital by
arranging new issues. In doing so, German banks frequently form
syndicates to float shares to institutional and individual
investors. However, even though German banks form loan
syndicates, their motivations lie in profit and interest rather
than conforming to the industry norm. German banks compete very
keenly for the opportunities to make loans to large industrial

84 Wilson, 1986, p. 335.
85 de Boissieu, 1990.
87 For example, Zysman, 1983; Edwards and Fischer, 1994.
corporations. According to Edwards and Fischer's recent report, "intensive competition in the market for loans to large firms left no scope for house banks to charge a higher interest margin on loans... the degree of competition to supply loans to large firms in Germany is so great that a large firm typically has between five and ten main banks which share equally in the firm's business."\textsuperscript{88} Another serious reservation for likening German industrial financing to Japan is that German industrial corporations are much less dependent on bank loans. For the entire post-war period of 1950 through 1989, bank borrowing accounted for only 10 to 12 percent of the net sources of finance for German industrial corporations while a lion's share (82 percent) is accounted for by retention.\textsuperscript{89} Therefore the difference in the sheer magnitude of intermediate financing makes the comparison with Japan almost uninformative.

\section*{III. CONCLUDING REMARKS}

Opportunity sharing in Japan is unparalleled by other advanced economies in terms of prevalence, magnitude, and nature. Probably more important, however, opportunity sharing in Japan is marked by its unique processes. One foremost characteristic is

\textsuperscript{88}Edwards and Fischer, 1994, p. 142.

\textsuperscript{89}Ibid., 1994, p. 54; Mayer and Alexander, 1990, p. 456.
the selectiveness of the process. Many Japanese scholars characterize market competition in Japan as 'harsh' (hageshii) giving the impression as if market competition is wide open to everyone; yet they do not indicate that such harsh competition takes place only among selected few. Of course, exceptions exist. Some focus on oligopolistic competition. Other mention "shoulder-by-shoulder" competition (yokonarabī kyōsō). In one way or another, these characterizations indirectly address the fact that competition is selectively done in Japan. The unique arrangement of competition cum cooperation is not open to all available candidates.

In the process of opportunity sharing, selection comes first, but not through open bidding. In the bidding in the pre-war naval projects, for instance, Y. Iwata writes:

Competitive bidding was not used. In most cases, discretionary, arbitrary contracting (zui keiyaku) was used. For instance, a basic guideline sounded as follows: The next fighter aircraft would be procured by competition between Mitsubishi and Nakajima. This description is not too far from the description of contracts for aerospace equipment today. As a NASDA officer clearly declared, all contracts are arbitrary contracts (zui keiyaku) of

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See, for instance, Imai, 1989.

See, for instance, Yoneyama and Nonaka, 1992.

Y. Iwata, 1986, p. 10. As to selecting the candidates for designated bidding, Y. Iwata recollects three criteria: to have experiences in making the equipment in question; to have enough designing manpower; to have superior facilities and technologies (Ibid, p. 58).
which the terms are set by the procurer.31

All in all, in the eyes of mainstream social scientists, it is a great paradox that market competition, the very embodiment of capitalistic freedom, is not unfettered in Japan but ought to be 'managed' in one way or another.

3Interview, Head, Investigation Section, Uchū Kaihatsu Jigyōdan [National Space Development Agency], Tokyo, 2 February 1995.
Appendix 2-1

Selected Corporations Having Cooperative Financing
(for the postwar period)

Nissan Motor (automobile)  Export-Import Bank
IBJ *
Fuji Bank *
Sumitomo Bank *
Kyōwa Bank *
Yasuda Trust Bank *
Tōkyō Bank
Dai-ichi Kan'gyō Bank

Fuji Film
(consumer chemical)  Mitsui Bank *
Tōkyō Bank
Mitsui Trust Bank
Yokohama Bank
Sumitomo Bank
Dai-ichi Kan'gyō Bank
Fuji Bank
Sanwa Bank

Kumagai Gumi (construction)  Sumitomo Bank *
Sumitomo Trust Bank
Tokai Bank
Taiyo Kobe Bank
Mitsui Bank
Yokohama Bank
Saitama Bank
I. B. J.

C. Itoh (trading)  Export-Import Bank
L. T. C. B.
Dai-ichi Bank *
Tokyo Bank
Sumitomo Trust Bank
Sumitomo Bank
Fuji Bank
I. B. J.
Taiyo Kobe Bank

Kubota Steel Works (steel works)  Sumitomo Bank *
Fuji Bank *
Sanwa Bank
Sumitomo Trust Bank
I. B. J.
Tokyo Bank
Yasuda Trust Bank

Komatsu, Ltd.
(heavy machinery)  Sumitomo Bank *
Fuji Bank
Kyowa Bank
I. B. J.
Sanwa Bank

82
<table>
<thead>
<tr>
<th>Company</th>
<th>Banks</th>
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<tbody>
<tr>
<td>Hokkoku Bank</td>
<td>Sumitomo Trust Bank</td>
</tr>
<tr>
<td>Taiyo Kobe Bank</td>
<td></td>
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<tr>
<td>Kao (consumer chemicals)</td>
<td>Fuji Bank * (MB for Tokyo area)</td>
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<tr>
<td></td>
<td>Sumitomo Bank * (MB for Osaka area)</td>
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<td></td>
<td>Kyowa Bank</td>
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<td></td>
<td>Dai-ichi Kangyo Bank</td>
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<td>Tokyo Bank</td>
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<td></td>
<td>Yasuda Trust Bank</td>
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<tr>
<td></td>
<td>Sumitomo Trust Bank</td>
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<tr>
<td>Takeda (pharmaceutical)</td>
<td>Sumitomo *</td>
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<td>Fuji Bank</td>
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<td>Sanwa Bank</td>
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<td></td>
<td>Sumitomo Trust Bank</td>
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<td>Tokai Bank</td>
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<td>I. B. J.</td>
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<tr>
<td></td>
<td>Kyowa Bank</td>
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<td>Saitama Bank</td>
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<td>Lion (food)</td>
<td>Mitsubishi Bank *</td>
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<td>Fuji Bank</td>
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<td>Dai-ichi Bank *</td>
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<td>Mitsubishi Trust Bank</td>
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<td>Yasuda Trust Bank</td>
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<td>L. T. C. B.</td>
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<td>Kyowa Bank</td>
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<td>Sanwa Bank</td>
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<td>Wacoal (textile)</td>
<td>Mitsubishi Bank *</td>
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<td></td>
<td>Mitsubishi Trust Bank</td>
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<td>Dai-ichi Kangyo Bank</td>
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<td>Sanwa Bank</td>
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<td>Tokai Bank</td>
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<td>Kyoto Bank</td>
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<td>Tokyo Bank</td>
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<td>Saga Bank</td>
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<td>I. B. J.</td>
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<tr>
<td>Mitsubishi Heavy Ind.</td>
<td>Export-Import Bank</td>
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<td>(heavy industry)</td>
<td>Mitsubishi Bank</td>
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<td></td>
<td>Mitsubishi Trust Bank</td>
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<td>I. B. J.</td>
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<td>Taiyo Kobe Bank</td>
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<td>Tokai Bank</td>
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<td>Sumitomo Bank</td>
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<tr>
<td></td>
<td>Sumitomo Trust Bank</td>
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<td></td>
<td>L. T. C. B.</td>
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<tr>
<td>Yakult (food)</td>
<td>Dai-ichi Kangyo Bank</td>
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<td></td>
<td>Daiwa Bank</td>
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<td>Fuji Bank</td>
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<td>L. T. C. B.</td>
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<td></td>
<td>Sanwa Bank</td>
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<tr>
<td>Toshiba</td>
<td>Mitsui Bank</td>
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<tr>
<td>(heavy electric/electronic)</td>
<td>Export-Import Bank</td>
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<td></td>
<td>Tokai Bank</td>
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<td></td>
<td>Kyowa Bank</td>
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<td>L. T. C. B.</td>
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<tr>
<td></td>
<td>Sumitomo Bank</td>
</tr>
</tbody>
</table>
Meiji Milk
(dairy/food)

Dai-ichi Kangyo Bank
I. B. J.
Taiyo Kobe Bank

Dai-ichi Bank *
Kyowa Bank *
Norinchūkin *
Mitsubishi Trust Bank
Sumitomo Trust Bank
J. D. B.
Sumitomo Bank
Tokai Bank

* main bank(s)

CHAPTER THREE
THE DEBATE:
EXPLAINING OPPORTUNITY SHARING

Why is opportunity sharing among rival corporations prevalent in Japan but rare in other advanced economies? Why do Japanese business organizations agree to share business opportunities with their direct rivals but the organizations in other economies do not? What conditions make Japanese corporations share rare business opportunities with their rivals? Both managed competition and opportunity sharing are not issues that have been extensively studied yet, and immediate explanations for these questions are scant. A careful scrutiny of relevant literatures, however, suggests that there are three lines of reasoning we can apply to the debate on opportunity sharing among rival corporations.

A first line of reasoning is that Japanese corporations cooperate with each other because doing so constitutes economic gains or utilities. This reasoning is offered in diverse variants of economic research, which would be reviewed as economic explanations in what follows. A second mode of explanation is offered from the perspective of government activism. Many believe that Japanese corporations cooperate and share opportunities with one another because they are either induced or forced to do so by the government. Both these lines of reasoning will be refuted in this dissertation. Even though

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not rejected, another line of reasoning concerning managed competition in Japan does exist. Scholars of the socio-cultural persuasion argue that Japanese corporations, like Japanese individuals, have the socially-formed tendencies or dispositions to facilitate inter-actor cooperation and sharing.

The explanation which I suggest in this dissertation is different from these three lines of reasoning. Anchored on the essential conditions of the Japanese industrial society, this dissertation attempts at a new explanation from the historical-institutional perspective. Even though my explanation builds on the above three different traditions of research in varying degrees, it is based on different definitions and assumptions about the nature of Japanese public corporations and their market relationships.

I. ECONOMIC EXPLANATIONS

A standard explanation for managed competition drawn from contemporary social science research is that rival corporations may share valuable opportunities because doing so is in their own interests. A private corporation's decision to share scarce opportunities with its rivals is interpreted, according to diverse economic theories, as an outcome of its rational and prudent economic calculations. As long as both principals and
agents are rational actors, the corporation consists of a coherent and rational 'system of action'.

This general statement can be further broken down into more elaborate explanations espoused by different schools of economic research. In neo-classical economics, the corporation is viewed as the extension of the selfish individual. Just as an individual consists of "object self and acting self, or principal and agent, in one physical corpus," the corporate actor is "one with multiple principals, constituting the object self, and multiple agents, constituting the acting self." The firm is thus like an atom, and the inter-firm relationship is close to atomization or 'perfect decentralization'. "The only parameters guiding choice are those that are given -- tastes and technologies -- and those that are determined impersonally on markets -- prices."

A stable market order emerges as rational actors pursue their own utility maximization. This pursuit is normative as well as practical: it leads to a better social order. Collective or cooperative behavior, if it occurs at all, can only be understood as a temporary and conditional arrangement made in the context of selfish pursuit of utility maximization. A representative rendition of this line of thinking is game theory even though it does not necessarily represent all economic

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1This characterization is elaborated in Coleman, 1990.

2Ibid., p. 421.

theory. Many writers try to explain cooperative action among business firms from this perspective. A typical example in this line of research is suggested by von Hippel's interpretation of "know-how trading" in the US steel industry in terms of the prisoner's dilemma. Similarly, the decision to participate in any joint venture is argued as being based on the rational calculation of benefit of research at the equilibrium level of investment, or cost reduction due to complementary skills and resources.

As long as utility maximization is immanent in human nature, there is no inherent difference between Western and Japanese corporations in terms of decision making and behavior. As such, American and British collaborative R&D ventures and research associations are all believed to be driven by individual firms' rational motivations such as cost reduction, absorption of information, and obtaining of technical support through network. William Ouchi and Michele Bolton suggest that both Japanese and American collaborative R&D ventures are based on the fact that "Joint effort is typically motivated by the perception that individual action has been inadequate to solve a problem

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'See, for example, Katz, 1986; Grossman and Shapiro, 1987; and Dasgupta and Maskin, 1987.


'Gilbert and Newbury, 1982.


'See, for example, C. Freeman, 1991; Souder and Nassar, 1990.
common to several industry members.⁹ In the case of Japan, Kodama Fumio argues that Japanese firms partake in collaborative research because it serves their interest, typically in the form of articulating market demands:

Cooperation among rival firms requires that the subject for research is both fundamental and of common interest to all participants... Competition among the association’s participants focused on the skilful utilization of the new equipment and materials, and their successful integration into the group’s own production lines.¹⁰

Explaining the factor for success of the well-known VLSI Technology Association, Sakakibara Kiyonori argues that the motivation for participating in the venture was that cooperation was in fact to each firm’s economic advantage.¹¹

Modern theory of industrial organizations anchored in the principal tenets of neoclassical economics is not able to explain patterned opportunity sharing because it assumes the corporation as a simple "black box" or "a collection or set of feasible production plans, presided over by a manager who, buying and selling inputs and outputs in a spot market, chooses the plan that maximizes owners’ welfare."¹² Speaking more fairly, neoclassical economic theory is not concerned with explaining the relationships among firms other than spot transactions of inputs

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¹⁰Kodama, 1992, p. 10.


and outputs. For instance, it "does not tell us what would happen if two firms chose to merge to become a single form."\(^{13}\)

As such, it is a farther concern for neoclassical economic theory to explain sustained or patterned cooperation as rational behavior. There is no justifiable account of how long-standing cooperative relationships can develop among corporations.

Of course, economists are not blind to the extra-market conditions that can form different milieus of decision making and behavior. The attempts to understand the delineating conditions under which firms operate are made in another important tradition of economic research: institutional economics. Institutional economics is more relevant than neoclassical economics in explaining inter-firm relationships. Institutional economics is not a strictly defined discipline; it is rather a broad-based, heterogenous school of economic thinking that focuses on the role of institutions in economic activities.\(^{14}\)

As for our problem of inter-firm relationship including managed competition, the most important conceptual element offered by institutional economics is that the organizational structure of the larger economy which effectively allocates resources. The first great step toward this mode of reasoning was taken by Ronald Coase in his seminal article entitled "The

\(^{13}\)Ibid.

\(^{14}\)A wide variety of economic thinkers can belong to this school of economic research. Major scholars who can be classified under the heading of institutional economics are the classic writers such as Max Weber, Thorstein Veblen, John Commons, W.C. Mitchell, Gunnar Myrdal, John K. Galbraith, etc, to name only several.
Nature of the Firm" published in 1937.\textsuperscript{15} His main argument lay in the idea that "the economic system as being coordinated by the price mechanism" is only partially true. Firms use another organizing principle: hierarchy. In the hierarchy mechanism, authority is employed in order to effect resource reallocation.\textsuperscript{16} A key concern, suggested by Coase, was that costs of economic transactions could be lower if the transactions are carried out through the organization rather than through the market. Various forms of institutions exist for the reduction of transaction costs as alternatives to market and hierarchies.

The transaction cost analysis was elaborated by Oliver Williamson. In explaining the limits to markets, Williamson looked not only at transaction costs but also at governance structures. As he summarizes, "Transaction costs are economized by assigning transactions (which differ in their attributes) to governance structures (the adaptive capacities and associated costs of which differ) in a discriminating way."\textsuperscript{17} The governance structure in the private organization is necessary mainly because human beings are opportunistic. But opportunism is only one necessary condition. The another reason is that

\textsuperscript{15}Coase, 1937.

\textsuperscript{16}Even before Ronald Coase, Frank Knight had called attention to the importance of risk sharing as the firm's primary function (Knight, 1921). Together with J.R. Commons' proposition that transaction be made the basic unit of economic analysis, the notion of the firm came to be interpreted from a new perspective that questions traditional assumptions about human agents and organization (Commons, 1934).

\textsuperscript{17}Williamson, 1985, p. 18.
modern corporations are collectives of assets. Authority and power are generated mainly from the ownership of assets. Asset specificity can be one important force affecting transaction costs so that it can be a source of opportunism. For this reason, regulating or governing opportunism of human agents becomes an important task of the modern corporation.\(^{18}\)

The understanding of the modern corporation \textit{a la} institutional economists can be applied to the inter-firm relationships because such key notions of non-market relationships and asset specificity are inherent to inter-firm relations. As noted by Michael Gerlach who applied transaction cost economics to the inquiry into Japanese keiretsu, "interfirm transactions are themselves often structured in repetitive, informal, and socially significant relationships."\(^ {19}\)

Cooperative inter-firm relationships such as joint ventures, strategic alliances, or associations can be explained in this context. For instance, "promotional networks" such as R&D alliances and associations are forms of organizations that substitute market contracts.\(^ {20}\) In entering such arrangements, firms seek either the reduction of transaction costs or the sharing of risk. As for Japan, business grouping and the main bank system are good cases in point for institutional economists.

\(^{18}\)Governance is a process of optimally balancing such problems, and there is then a natural tendency to internalize the costs related to transactions (Kester, 1992, p. 27).

\(^{19}\)Gerlach, 1992, p. 48.

In this line of research, some focus on the information on borrowers that banks produce which is not available, or very costly to obtain, from direct capital markets. As the bank and industrial borrower improves the information over a long period of time, they will be locked into the 'main bank relationship'. Such information is of a unique quality and then used to help Japanese industrial corporations obtain better access to funds with lower levels of attendant risk relative to American firms.  

Noting the importance of loan syndication in the 1930s, for instance, Teranishi argues that "the necessity of risk diversification was one of the most important reasons for organizing loan syndication at the time." In other words, "loan syndication during the early wartime period emerged as a response by banks to the necessity of risk diversification by means of syndication against a rapid reorganization of the industrial structure." For another group of scholars, the benefit of forming business groups is to be found in risk reduction. Nakatani Iwao and Paul Sheard view this function of sharing information and risk as "informal insurance" between firms. Goto Akira argues that Japanese corporations are able

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21 See, for example, Hoshi, Kashyap, and Scharfstein, 1990.

22 Teranishi, 1993, p. 22.

23 Ibid.

24 See, for example, Nakatani, 1984; Aoki, 1988; Sheard, 1986.

to overcome such dysfunctions as scale diseconomies and control losses of market exchange by forming the business group (keiretsu).26 This argument is applied not only to the bank relationship but also to the relationship between general trading companies and industrial corporations.27

While institutional economics can explain why a market (or market relationships) can become an institution, it does not address why the ways in which markets become institutions are different across economies. For instance, if a main bank system or loan syndication as mentioned above are non-market institutions created to economize transaction costs, why are they widespread in Japan, and not in other economies? The inability of economic accounts to explain the remarkable differences across economies or societies applies not merely to any specific variant but to the entirety of the economic discipline. For another instance, if opportunity sharing is a rational behavior for business enterprise, why is it a rule in Japan and an exception in other advanced economies? Such inability of contemporary economics to answer such questions stems from its denial of the social contexts as determinants of economic behavior. As Granovetter points out:

A fruitful analysis of human action requires us to avoid the atomization in the theoretical extremes of under- and over-socialization conceptions. Actors do no behave or decide as


27See, for example, Roehl, 1983; Sheard, 1989.
atoms outside a social context nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive action are instead embedded in concrete, ongoing systems of social relations.\textsuperscript{28}

I will discuss this point more in greater detail later. Before that, we need to examine another important line of reasoning, which is usually at odds with economic theory.

II. STATE ACTIVISM

When it comes to finding the reason for managed competition in Japan, state activism may appear to be the most powerful explanation. Foremost evidence for the writers in this perspective would be the notion of curbing "excessive competition" (katō kyōsō), a notion widely upheld in Japan. Among the Japanese government and business elite, there is a strong belief that competition is desirable only when "markets are orderly" (chitsujiō no aru shijō). The 'orderliness' of the Japanese markets has been maintained, in the first place, by curbing free competition that is regarded as harmful rather than beneficial. No matter whether there is a harmony between government and private businesses, and no matter whether the nation is at war or at peace, a nationally cherished principle that undesirable, excessive competition ought be curbed has never

\textsuperscript{28}Granovetter, 1985, p. 485.
been questioned.

Curbing excessive competition, therefore, has remained an important goal for the government as well as for business organizations. The first major wave of government activism in controlling market competition arrived with the economic depressions. Throughout the time of the Great Depression of the late 1920s and into the 1930s, the Japanese industrial scene witnessed two major changes concerning the market order.

First, the freedom of making contracts came to be restricted and cartels became easier to form with the 1931 enactment of the Important Industries Control Law (IICL). With the law, the Japanese government intervened in industrial organization by encouraging cartels and trusts and guiding their activities.\(^2\) The Japanese government and the business community had a consensus in the 1930s that inter-firm competition was harmfully keen. The consensus was then that there had to be some 'control' of competition. IICL limited the freedoms of business operations (eigyō) and contracting (keiyaku).

Under the grand catchphrase of "industrial rationalization," in particular, market competition became controlled.\(^1\) As Chalmers Johnson writes:

\(^2\)In this sense, there was a harmony of interest between bureaucrats and business elites. But this does not necessarily mean that cartels were welcome in the business circle.

\(^1\)For a detailed account of industrial rationalization of this period, see Chapter 3 ("The Rise of Industrial Policy") of C. Johnson (1982).
In Japan rationalization came increasingly to emphasize that competition among enterprises should be replaced by 'cooperation,' and that the purpose of business activities should be the attempt to lower costs, not make profits.\textsuperscript{31}

A publication of the Japan Chamber of Commerce and Industry explicitly records that the denial of free competition and cost cuts were two important aspects of the "guiding spirits" (shidō seishin) of industrial rationalization:

First, free competition is to be denied... The spirit of industrial rationalization is cooperation among corporations. Lacking this spirit, none is qualified to mention industrial rationalization. Such organizations as trusts and cartels cannot be achieved without this spirit. Second, the emphasis must be placed on cutting costs. Up to this point, a major goal of business management has been "money making" (mouke shugi). In order to maximize profits, all ways and means have been employed without selection... Against this, the spirit of industrialization is to lower costs of production.\textsuperscript{32}

A more severe control of the market was followed as the Japanese state moved full steam ahead to 'advance' into China. In August, 1940, right after the formation of the second Konoe Cabinet, elite 'reform' bureaucrats (kakushin kanryō) gathered at the Cabinet Planning Board, a key agency for war mobilization, to hammer out a new economic structure. At this meeting, it was pointed out that sluggish industrial production was to be accounted for by corporations' pursuit of profits. Once this negative trend was found, it was natural that the reform bureaucrats decided to get rid of harmful competition among the

\textsuperscript{31}C. Johnson, 1982, p. 108.

\textsuperscript{32}Cited in Yazama, 1971, pp. 176-7.
members of industrial associations for profit maximization and to re-orient the economic structure toward maximum industrial production nationwide.

The situation in the post-war era was not too much different from the pre-war one. Murakami Yasusuke and Thomas Rohlen emphasize the importance of curbing excessive competition in the following words:

One may question the extent to which the danger of "excessive competition" was real, or at least the explosiveness of the instability. We cannot doubt, however, that such shared cognition was a cornerstone of the social-exchange relationships between the association (or each firm in it) and the government. The resultant cooperation would bring exceptionally smooth economic development ... In a way, the restrictive measures attempted by government -- entry control, recessive cartels, investment coordination, and so on -- aimed at avoiding this implicit danger."33

Komiya Ryutaro also adds:

In Japan, from the end of the war through today, one guiding principle for the formulators of industrial policy with respect to intra-industry organization has been the prevention of excess competition. Even now one finds in newspapers countless times the statement that a given measure is being used, or should be used, to prevent excess competition.34

A foremost concern of public policy regarding market competition is to induce or create a desirable 'degree' of competition. For instance, Komiya writes that the notion of excessive competition has been used "in conjunction with demands for the lessening of

33Murakami and Rohlen, 1992, pp. 92 and 95.
34Komiya et al., 1988, p. 10; emphasis added.
competition in all sorts of industries." According to Tsuruta:

Maintaining the market order meant an exclusion of excess competition, and excess competition arose when the scale of the firm was too small. Policies to merge firms or concentrate production sought therefore to simultaneously eliminate those two perceived defects.  

The notion of preventing excessive competition can be also illustrated with the final state of the prevention of excessive competition. The state in which excessive competition is managed can be called "compartmentalized competition." Compartmentalized competition means that government compartmentalizes (shikiru) the economy into industries and controls the "content, timing, and strictness" of their development; at the same time, "a certain type competition was set free and was fiercely at work within this framework." In short, the "compartmentalized" part of Murakami's 'compartmentalized competition" is the consequence of state activism. More specifically, it is the government -- particularly MITI -- that compartmentalizes industries and decides who does what with what kind of government support.  

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36Tsuruta, 1988, p. 63.


38He notes the role of industrial policy, which consisted, according to him, four practices: (1) promotional measures and license controls; (2) entry control; (3) investment guidance; and (4) recession cartels. All these heavy-handed government regulations were executed due to "a crucial psychological factor" that is 'the national 'catch-up growth' consensus" that "dwarfed
Others conceptualized managed competition as "organized market" (soshiki sareta shijō). Hiwatari Nobuhiro, for instance, argues that the Japanese markets are marked by functional divisions, oligopolistic competition in each divided market, and the importance of keiretsu competition in forming oligopoly. A key force that enables such conditions is the "arbitrary management" (jin'iteki kanri) of market entry control.

State intervention is an important environmental factor for managed competition. As introduced above, curbing excessive competition with a view to attaining a desirable degree of market competition, having competition "compartmentalized" or the market "organized" all would be essential factors of building an harmonious industrial order. But can these factors or theoretical constructs explain the dynamic of opportunity sharing among rivals? There are a considerable number of cases in which Japanese corporations fought against and outlived the government policy to have appropriate degrees of competition in the markets. Honda Motors's participation in the passenger car industry and Sumitomo Metal's entry into the steel industry are only a few examples of such successes, and these incidents all took place at the time when the MITI's voice was particularly powerful.

Another weakness of the explanation based state activism is that it attempts to explain competition regarding market entry, other societal issues" (Murakami, 1982, p. 48).

"Hiwatari, 1991, p. 11.
and not the affairs among the competitors who are already in the given market, thus making a more important issue -- the vested rights -- inexplicable. This point is clear when we recall Hiwatari's account of the Japanese government's arbitrary 'management' of market entry control. 'Management' of competition to be discussed in this study is the management which takes place after market entries, and not before. It is thus not surprising that state activism fails to explain the cases of opportunity sharing that take place at the initiative of private corporations with no government demands or incentives.

The variables or theoretical constructs suggested by statist theory seem to be parameters rather than variables in explaining why rival corporations share scarce business opportunities. Therefore, we need explanations at the market actor level. One strategy to overcome the limits and shortcomings of the preoccupation with the public policy level in discussing managed competition would lie in focusing on the nature of corporate decision making, a more immediate determinant of market relationships.

One stubborn myth about the Japanese political economy is the supremacy of plan rationality as suggested by Chalmers Johnson.\(^4^\) The supremacy of plan rationality is believed to be embodied in industrial policy, government "vision," and

\(^4^\)C. Johnson, 1982.
indicative planning. But the core value of plan rationality is not the perfectness of plans and policies, but the sheer fact they are made at all as means to achieve collective purposes. Therefore the failure in implementing the plans and visions is not critical. As I shall demonstrate with the case study of aerospace research and development, the grand national goal of full domestic development and production of satellites and rockets had been temporarily given up or postponed several times, shifting to a more practical goal of learning frontier technologies from foreigners. In industrial financing, the temporary policy measures such as the Temporary Fund Regulation Law (of both pre-war and post-war periods) work as de facto permanent policies, yet are intended to be replaced by other policies at any time. Nevertheless the true goals of such policy commitments (that is, stable supplies of funds to industrial corporations and the mastering of frontier space technologies) have been achieved with no major failures.

III. SOCIO-CULTURAL VIEWS

The essential notion that runs across diverse economic

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Here the supremacy of plan rationality should not read as the synonym for state dominance. There is a growing body of literature that approaches the government-business relationship from a pluralistic, negotiation perspective as discussed in the next section.
theories of the modern organization is the rationality. The 'maximizing' behavior suggested by neoclassical economists (or the 'satisficing' behavior as explained by Herbert Simon) can be referred to as a rational action. In this mode of reasoning, the corporation is the quintessential 'rational actor'. The ultimate test of the rationality is the economic efficiency of the action of the corporation. A key difference between neoclassical economics and institutional economics concerning the market relationship is that the former regards the modern corporation as a 'black box' while the latter understands it as a product of contracts. In this sense, the latter is more contextual in understanding the nature of the modern corporation and its behavior. On the other hand, rationality is judged on a different plane when it comes to the scholars writing from the vantage point of state activism. As Chalmers Johnson argued, the kind of rationality that is more important in understanding the behavior of Japanese corporations is 'plan rationality' at the national level rather than 'market rationality' at the individual actor level.\(^\text{42}\)

Rationality is also a matter of degree as well as of kind. Even for a single actor, some behaviors can be rational and others, irrational or indeterminate. Therefore, rationality can be context-specific. Embedded in a very different socio-economic structure, Japanese corporations have a set of objectives of a different nature and hierarchy from those maintained by the firms

\(^{42}\)Ch. Johnson, 1982.
in the Anglo-American tradition. Studies written from the socio-cultural perspective prove important in understanding the importance of the context.

The questions about the differences between economies appear to be explained most effectively by socio-cultural accounts. Explanations based on norms and cultures have been powerful in Japanese studies. As for the influences of social norms and values, there is now a legion of literature. For instance, Murakami Yasusuke, Kumon Shumpei, and Sato Seizaburo note that the historical tradition of an achievement-oriented group pattern of the Tokugawa samurai household (ie) and village (mura) still holds the power to affect "social exchange."43 The norms that spring from the notion of the ie 'philosophy' are adopted by Japanese economists to explain the unique (and superior) qualities of Japanese capitalism.44 For another instance, Ezra Vogel noted a "humanistic long-term vision" and a "communitarian" approach to economic exchanges as components of the success of Japan.45 Johannes Hirschmeier and Tsunehiko Yui, offering a historical account of business management in Japan, note that "the ethics of functional role expectation" based on the "human nexus" has been the central value system behind economic and

45Vogel, 1975.
commercial developments in Japan."

Regarding the nature of the corporation, a great conceptual bridge linking institutional economics and the Japan-specific, socio-cultural reasoning was built by Aoki Masahiko. Elaborating on the Williamsonian notion of 'nexus of contracts', Aoki, an economist recently widely cited not only by economists but also by sociologists, suggested that "the modern corporate firm needs to be regarded as a coalitional association of diverse constituents, such as managers, employees, banks, investors, business partners and so on rather than as a mere technological black box." And this observation is echoed by sociologists. For instance, Mari Sako writes that her research "places more emphasis on how incomplete contracts in product, labor, and capital markets are executed by reference to social and moral norms" than on "the neoclassical theory which conceptualizes the firm as a black box, no more than a technological relation

"Hirsheimer and Yui, 1975. Daniel Little (1991, p. 38), another rational choice thinker, suggests the concept of "broadened practical rationality," on which "agents are assumed to have a set of goals toward which their actions are oriented, a set of beliefs about the particular social and natural environment in which they find themselves, and a set of norms that play a role in deliberation about action." Geoffrey Hodgson contends that "the basis of [exchange] arrangements is not simply the rational calculation of abstract individuals with a view to their perceived costs and benefits; it is a combination of both formal legislation and legitimation, and inherited custom and tradition of a less formal kind."

"Aoki, 1984, p. 5."
between inputs and outputs." In this view, the corporation can be interpreted as a community.

In the Japanese context, a key characteristic of inter-firm relationships in the community view is the importance of trust and "goodwill" over market-rational calculation as determinants of market relationships. Questioning the validity of Western economic theory, Ronald Dore suggests that the efficiency of the industrial organization must be interpreted with reference to cultural features of each society. According to Dore, Japanese corporate decisions and behavior are to be interpreted in terms of the "spirit of market capitalism" of Japan. The essence of the spirit lies in the "goodwill," which he defines as "the sentiments of friendship and the sense of diffuse personal obligation which accrue between individuals engaged in recurring contractual economic exchange." For Dore, "relational contracting," peculiar to Japan, is a way of trading off the short-term loss involved in sacrificing a price advantage, against the insurance that one day you can 'call off' the same type of help from your trading partner if you are in trouble yourself."

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48Sako, 1992, p. 15.
49Dore, 1983.
50Ibid., p. 460.
51Ibid., p. 470. In this sense, Dore's observation is not very distant from Nakatani's characterization of business grouping as the act of forming of informal insurance. To Ronald Dore, valuing trust and cooperation is no less efficient. It simply is a different mode of rationality. In Dore's words,
Dore's socio-historical theorizing is augmented by Mari Sako. According to her study, it is goodwill trust that differentiates an obligational contractual relation from an arm's-length contractual relation; goodwill trust is present in the former but not in the latter.\textsuperscript{52} The driving force behind the obligational contractual relation is "expectations that the act of goodwill will lead to a similar response from the trading partner and that in times of force majeure unforeseen crisis, one may call on the good nature of a trading partner to allow one to default in some way from the previously agreed terms of contract."\textsuperscript{53} In a similar spirit, a group of economists appointed by the late Prime Minister Ohira in 1979 is reported to have stated in their report that:

the Japanese economy relies on 'collegial groups' (nakama shūdan) that are based on various relationships created within and between companies... In some situations, such a relationship can be detrimental to 'freedom' and 'competition' and contains many undesirable aspects. However, the Japanese economy, which [as exemplified in the word] ningen ["relationship between persons"], is the very

"It [cooperation] is a calculation, perhaps, which comes naturally to a population which until recently was predominantly living in tightly nucleated hamlet communities in a land ravished by earthquake and typhoon. Traditionally, you set to ... help your neighbor rebuild his house after a fire, even though it might be two or three generations before your was burned down and your grandson needed the help returned" (ibid).

\textsuperscript{52}Sako, 1992, p. 242.

\textsuperscript{53}Sako, 1992, p. 10. Sako classifies trust into "contractual trust" (specific written or oral commitment), "competence trust" (the expectation of a trading partner performing its role competently), and "goodwill trust" (trust in open commitment) (1992, pp. 37-40).
model which Western societies are now beginning to emulate.\textsuperscript{54}

Even though socio-cultural theories provide powerful contextual explanations, puzzles remain unsolved. First of all, the key theoretical constructs seem to need either further reduction or more specific definitions. For instance, what is obligation? The linchpin of obligation is, it is argued, a mental property of 'trust'. But is this notion of trust finite and ultimate? Or can it be further analyzed into more concrete constructs? Sako attempts to provide an answer for how trust is created and sustained. As a necessary, if not sufficient, condition of goodwill trust, Sako points out the existence of "shared normative values."\textsuperscript{55} She then suggests "indebtedness" as a sufficient condition to sustain goodwill trust. But these constructs or conditions seem universal, not specific to particular contexts.

A similar question needs to be raised regarding the genesis or origin of the cultural notions such as goodwill trust. In lieu of explaining the origin of the goodwill trust, Sako refers to two extremes as a framework for reasoning. At one extreme is "familiarity and friendship" and the other extreme is repeated games based on calculation.\textsuperscript{56} Murakami and Rohlen posit that

\textsuperscript{54}Cited in Pyle, 1992, p. 52.

\textsuperscript{55}Sako, 1992, p. 44.

\textsuperscript{56}Sako, p. 46.
there are two conditions for social exchange (as opposed to economic exchange). One is an economic environment that enables "a cognitive consensus that predicts high profitability from cooperation and little resistance to this mode or consensus from outside the group," and the second condition is the cultural background conducive to "formation of an evaluative consensus for cooperation among participants not related by ascriptive human ties."§7 I do not refute these conditions or ways of forming social relationships.

What remains to be seen, however, is the conditions which make these processes radically different across societies or contexts. A good case in point is the comparison between Japan and Korea, both of which share a number of socio-cultural traits for historical and ethico-religious reasons. South Korea shares with Japan many socio-cultural traits and experiences such as cooperative agriculture in confined geographical areas (that is, mura in Japanese or maul in Korean), strong senses of mutual obligation (giri in Japanese or euri in Korean), and the long-term nature of the calculation of the benefits/costs of reciprocity, to name only a few. As a former MITI-official-turned scholar writes:

Korea is a particularly important nation which must be included in any consideration of Japanese problems, since Korea is not only a highly developed industrial nation, but also has many socio-cultural elements in common with Japan. Thus it is extremely difficult for both the homogenous race and the socio-cultural elements arguments to be given any validity, given that the same elements can also be found

§7Murakami and Rohlen, 1992, p. 81.
Even inside Japan, if the norms such as the propensity for trust and relational contracting are the forces inherent in the Japanese economy, why are they not consistent in behavior over time? For instance, why were Japanese corporations in the 1910s and 1920s more similar to today's American firms than to today's Japanese firms? Why did Japanese managers pursue dividend maximization for their principals in the 1910s and 1920s and, then today, why can they stay away from such fiduciary duties while minding other forms of economic efficiency? Did the Japanese have different dispositions or culture at that time? Since when have contemporary Japanese corporations maintained the current corporate culture?

These puzzles suggest that our social-contextual understanding has to be supported by historical inquiries. Where do the conditions and institutions that govern socio-economic behavior come from? Are they the variables that cannot be traceable to something further? In this study, I intend to offer answers to these historical questions.

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58 Matsumoto, 1983, p. 179.

59 Dore is clearly conscious of the pitfall of such commonplace socio-cultural concepts as "modal behavioral dispositions" or "value preferences" or "disposition to action" (1983, p. 469). Instead, he offers a concrete set of factors for the dominance of relational contracting in Japan. But the genesis of such factors is not fully explained.
IV. THE DEBATES TO PURSUE

After all, managed competition in general and opportunity sharing in particular are outcomes and embodiments of decisions made by the most direct participants -- the corporation -- in such market relationships. Therefore, the question should be, why are Japanese corporations' decisions on inter-firm relationships different from those of their Western corporate decision makers? Answering this question demands an understanding of who the real decision makers are in contemporary Japanese corporations. In other words, we need to dissect the Japanese corporation in terms of decision making.

In mainstream economics, the business corporation exists for the goal of maximizing profits. A firm is "a technical unit in which commodities are produced... An entrepreneur transforms inputs into outputs, subject to the technical rules specified by his production function."

In this model, salaried managers are mere agents who are supposed to do what they are told to do by their principals. As Scott E. Masten discusses, every employee in the American work place ought to accept an implicit duty to yield obedience to all reasonable rules, orders, and instructions of the employer.

While the firm is merely a "rhetorical device adopted to facilitate the discussion of the price system" for neo-classical

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60Henderson and Quandt, 1971.

economists, the firm exists as the outcome of contracts among such selfish individuals cum owners of assets. Within institutional economics, the line of research which focuses on the authority structure within the firm is agency theory. Transaction cost analysis fails to deliver an effective explanation of authority relations because it does not assume the firm as a finite entity. As for inter-firm relationship, this gap is also crucial because it does not provide any new insight into the understanding of market order. A major effort to fill this gap in the understanding of the authority relations was made by Alkane and Demsetz in their 1972 article entitled "Production, Information Costs, and Economic Organization." In this article, Alkane and Demsetz emphasized the notion of 'monitoring' as a specific form of authority within the firm. In Alkane and Demsetz's view, transactions involving joint or team production require careful monitoring so that each agent's contribution can be assessed. For that purpose, they argue, the agents must be accorded with a set of rights which include: (1) to be a residual claimant; (2) to observe input behavior; (3) to be the central party to common to all contracts to inputs; (4) to alter

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63For transaction cost economists such as Oliver Williamson, why the firm exists is itself a question to be further studied.

64Alkane and Demsetz, 1972.
memberships of the team; and (5) to sell rights 1 through 4.  

The notion of the principal's right to monitor agents becomes clearer when we consider a recent characterization of the firm as "a set of property rights." As Oliver Hart defines, "Ownership of an asset goes together with the possession of residual rights of control over that asset, that is, the owner has the right to use the asset any way that is not inconsistent with a prior contract, a custom, or any law." This view seems to be most strongly espoused by some scholars in explaining the nature of the Japanese corporations in general and their relationship in particular. The most fundamental reason is that the view seems to describe the 'harmonious' nature of the Japanese corporation, or the 'J firm'. In this view, the behavior of the firm is like the behavior of the market, i.e.,

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65Alkane and Demsetz, 1972, p. 783. Based on this definition of the rights of the owner-monitor, Alkane and Demsetz offered a oft-cited characterization of the contractual owner-employee relationship as follows:

It is common to see the firm characterized by the power to settle disputes by fiat, by authority, or by disciplinary action superior to that available in the conventional market. This is delusion. The firm does not own all its inputs. It has not power of fiat, no authority, no disciplinary action any different in the slightest degree from ordinary market contracting between any two people. I can "punish" you only by withholding future business or by seeking redress in the courts for any failure to honor our exchange agreement. That is exactly all that any employer can do. He can fire or sue, just as I can fire my grocer by stopping purchases from him or sue him for delivering faulty products (Alkane and Demsetz, 1972, p. 777).


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the outcome of "a complex equilibrium process."\textsuperscript{67}

Indeed Jensen and Meckling's notion was adopted by Aoki in characterizing the Japanese firm. Aoki suggested that "the modern corporate firm needs to be regarded as a coalitional association of diverse constituents, such as managers, employees, banks, investors, business partners and so on rather than as a mere technological black box."\textsuperscript{68}

Then who makes decisions in such corporation? The introduction of the notion of the firms as the nexus of contracts appears to have served as some sort of synthesis of economic analysis and socio-cultural interpretation in the study of the Japanese political economy. Aoki, for instance, offers a view that he calls the "dual-controlled" firm. The dual-controlled firm is "subject to the dual control (influence) of financial interests (ownership) and employees' interests rather than to unilateral control in the interests of ownership."\textsuperscript{69} In such a firm, the argument goes, Japanese managers may work on behalf of labor in general. The ground for the possible synthesis lies in this communal view of the Japanese firm and, therefore, its decision making.

As Sakakibara Eisuke, a senior official at the Ministry of Finance, asserts, the corporation "is not merely a producing and

\textsuperscript{67}Jensen and Meckling, 1976, p. 311.

\textsuperscript{68}Aoki, 1984, p. 5.

\textsuperscript{69}Aoki, 1994, p. 64.
selling organization for the sake of shareholders but a quasi-community (giji kyōdōtai) that includes employees and their families."\(^{70}\) In this vein, Wakabayashi Masashi offers another communal definition of the Japanese corporation. To him, the Japanese corporation is a "social public organ which represents employee sovereignty" (jūgyōin shuken no shakai no kōki).\(^{71}\) Carl Kester offers an even more extended characterization of the community:

At first glance from a Western perspective, the [Japanese] enterprises would appear to be economic anomalies, successful despite rather than because of the agreements and expectations that bind various corporate stakeholder (managers, workers, creditors, shareholders, suppliers, customers, government regulators, and so forth) together.\(^{72}\)

The views suggested above are anchored on an egalitarian and benign assumption of the relationships among capital, management, and labor. But, do Japanese rank-and-file employees really have 'voices' in decision making? Or do they just receive the benefits of being part of dual-controlled firms? Imai Ken-ichi and Komiya Ryutaro provide a different answer to this question. According to them, the large Japanese firm is governed not by democracy, but by elite managers who "are chosen from the firm's employees through a competitive and lengthy process that has virtually no connection with the price of the firm's shares."\(^{73}\)


\(^{71}\)Wakabayahi, 1994, p. 164.

\(^{72}\)Kester, 1991, p. 22.

\(^{73}\)Imai and Komiya, 1994, p. 33.
Imai and Komiya admit that "the democracy ... might seem very different from the typical large firm in Japan."\textsuperscript{74} In their view, the Japanese corporation is a "labor-managed" firm, which is defined as "a redepository of the 'human capital'" or "agglomeration of managerial resources consisting of human capital ... where decision making is carried out through a structured organization with the president (of the chairman of the board of directors) at its apex."\textsuperscript{75} The primary goal of this labor-managed firm is to "maximize the per-capita incomes of their staff."\textsuperscript{76}

What Imai and Komiya suggest is that the sharing of the interest and stake in the firm is one thing and the decision making power is another. This observation is corroborated by another economist who shares the communitarian view of the Japanese firm. For the status of managers and rank-and-file workers, Itami Hiroyuki provides the notion of "core employees." Emphasizing the "human" side of capitalism, Itami uses term "human capitalism" (jinbon shihon shugi). Itami argues that "those who provide human capital base are the sovereign, not those who provide the money."\textsuperscript{77} By employee sovereignty, Itami means that "the firms belongs to the people who have committed

\textsuperscript{74}Ibid, p. 30.

\textsuperscript{75}Ibid., pp. 25, 26, and 30.

\textsuperscript{76}Ibid, p. 27.

\textsuperscript{77}Itami, 1987, p. 20.
themselves to it and worked in it for long periods";\textsuperscript{78} but "Not every employee, of course, is equally a holder of sovereign power. There is a group of what one might call core employees with a long-term commitment who are the real 'owners' or 'sovereigns'."\textsuperscript{79} Similarly, Michael Gerlach argues that Japanese managers are employed not as part of the profit- and dividend-maximizing machine but as all potential "strategic managers" who decide the fate of their own life in the workplace.\textsuperscript{80} These strategic managers are free to make decisions and implement them without worrying about fiduciary duties for stockholders; instead, they are "stakeholders."

The interpretations suggested by Imai and Komiya and Itami help answer the questions: who are the key decision makers in the Japanese corporations? What is the basis of their decision making? Based on the realistic views reflected in Imai and Komiya and Itami, I contend that the decision making body in the Japanese corporations is neither the owners of the firm as the coherent system of action a la neo-classical economics, nor the principals in control of their agents through a governance

\textsuperscript{78}Ibid., p. 4.

\textsuperscript{79}Ibid., p. 5. As to control and monitoring of this sovereignty, Itami suggests that "The most important constraint is market competition. Firms driven by employee egoism risk losing their place in the market and becoming bankrupt. The fierceness of what is often called 'excessive competition' in Japan therein serves a useful function. Secondly there are constraints exercised by the providers of capital. Banks are very important in this" (Ibid., p. 11).

\textsuperscript{80}Gerlach, 1992.
structure posited in the transaction-cost economics, nor the
unity of principals, agents, and rank-and-file employees as equal
stakeholders as characterized by the communitarian theory of the
firm. Japanese corporate agents are free from the grip of their
principals mainly because there is no sizable class of principals
in their standard definition. Japanese corporations do not
belong to individual property owners. Instead, corporations own
corporations. The Japanese capitalism dominated by salaried
agents within a larger context in which corporations belong to
each other is dubbed as "agency capitalism" in this study.

The generality of opportunity sharing among rival firms,
which is hardly explained by economic, statist, and communal
views, is explained by the two key conditions of agency
capitalism with particular reference to corporate decision
making: managerial sovereignty and norm conformity. Salaried
Japanese managers are the autonomous, strategic decision makers.
Even though Japanese agents are freed from the obligations to
their principals, they are constrained and disciplined by other
forces. The most important force behind Japanese agents'
decision making are the norms they share as a class. In inter-
firm relationships, there is the norm of cooperation among rival
corporations that has been developing since the formation of the
modern capitalist economy in Japan. In this study, therefore,
this norm of cooperation is elaborated upon as the most important
determinant of opportunity sharing among rival corporations.

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CHAPTER FOUR

AGENCY CAPITALISM: 
THE LOGIC OF MANAGED COMPETITION

The wheel of modern capitalism is the joint-stock, limited-liability corporation. Commodities and services are produced and allocated through the workings of modern corporations. Yet the modern corporation is a fictitious entity. The body corporate -- a "juridical" or "legal person" -- is an association of invested private properties. Who controls such modern corporations? Who makes the decisions? For Japan, the answer is that the decision makers are salaried managers, and not investors. In other words, agents, and not principals, decide the fate of the invested properties of the latter. The Japanese recognize this truth. In an editorial addressing the issue of incorporation, the Asahi Shim bun printed a summarizing statement of corporate Japan today:

In our [Japanese] industrial society, a spirit of the commercial law that corporations belong to shareholders tends to remain as an empty principle (tatemaе). Japanese corporations are ruled by managers and rank-and-file who are only salaried employees while the shareholders' opinions are mostly neglected. In the name of 'stable corporate ownership' (antei kabunushi kоsaku), some 70 percents of shares are owned crossly by corporations. This structure helped managers disregard general shareholders.¹

In the introductory chapter, I suggested that the ripeness and wide reach of managed competition and opportunity sharing can be best explained by examining the nature of corporate decisions,


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particularly regarding inter-firm relationships. I then suggested that the key conditions that explain the dependent variable are the autonomy and freedom of employed managers (the condition of "managerial sovereignty") and their possession and sharing of the norm of inter-firm cooperation and conformity to it (the condition of "norm conformity").

In what follows, I will elaborate on these two conditions and demonstrate how they can explain the dependent variable of opportunity sharing. Before elaborating on these conditions, however, a comparative characterization of the Japanese corporate economy is in order.

I. CORPORATE ECONOMY AND CORPORATE CONTROL: A BRIEF COMPARATIVE SURVEY

The idea that modern corporations are controlled by professional managers is hardly new. Indeed, an authoritative statement regarding this phenomenon was suggested as early as 1932. In their ground-breaking work entitled The Modern Corporation and Private Property, Adolf A. Berle and Gardiner C. Means foretold that the modern corporation would be controlled by professional managers, not their employers.² With the diffusion

²New York: Macmillan. The adjective "ground-breaking" is hardly an exaggeration. John Kenneth Galbraith, for instance, named the book as one of the two most important books of the 1930s, together with Keynes's The General Theory of Employment, Interest, and Money. For a positive reappraisal of the book, see Hessen,
of ownership of large corporations to thousands of small shareholders, according to Berle and Means, de jure control by ownership was increasingly replaced by de facto control by professional managers. On the other hand, small shareholders become disparate, unorganized, and uninterested in management.

Berle and Means's study opened up a whole new area in the inquiry into the nature of modern corporations with particular reference to ownership and control. Well established scholars elaborated and refined the thesis of Berle and Means later. John K. Galbraith observed, for instance, that specialized technical and scientific skills formed within the large corporations can constitute "techno-structure."３ The members of this techno-structure have a strong self-interested commitment to the survival of the organization to which they belong. They adapt corporate goals for the planning of the corporate environment and pursue the growth of the firm size rather than profit to yield larger dividends to the shareholders.４

But it is an irony that we actually do not need to revisit this line of elaborate debate on corporate control when it comes to Japan. First of all, while the de jure power of the multitude of small shareholders is still relevant and robust in other advanced economies, it is not so in Japan. The whole notion of


４See also Williamson, 1964.
corporate control and external discipline of salaried managers is based upon the power of the investing public. The free transferability and the voting power of shares still work as powerful sources of corporate control, at least in the Anglo-American economies (against which mainstream economic theory is formulated). Of course, corporate US and corporate UK are not entirely dominated by dispersed small shareholders. On the contrary, the role of large institutional investors is ever increasing on both sides of the Atlantic. ⁵ Active institutional involvement is not against the market mechanism. It proves to create efficient operation of the corporate sector. ⁶

The basic reason that active institutional involvement is agreeable to the workings of the corporate sector is that the involvement takes place according to the dividend-maximizing needs of the ultimate investors. Decisions of US and UK institutional investors are made according to the goal of how to make money, and not of what industries to support or what business to do (as we will see in the Japanese case). The evidence for this goal is found in the prevalence of takeover activities in the US and the UK, and this prevalence is significant in the comparative perspective. As Jenkinson and Mayer note:

⁵See, for instance, Jenkinson and Mayer, 1992.
⁶Ibid., p. 2.
regularly one-quarter of takeovers of publicly listed targets in the UK since the beginning of the 1970s have been hostile in nature, in the sense that they are rejected by management of the target firm. In contrast, ..., there have been just four cases of hostile takeovers in Germany in the whole of the post Second World War period. In general, hostile takeovers are few and far between on the Continent of Europe and in Japan.\(^7\)

Another interesting finding of Jenkinson and Mayer is about the fate of the corporate managers. According to their study:

One of the consequences of this high level of takeover activity is a high level of executive changes... the two years after the successful completion of a hostile takeover in the UK, nearly 90 per cent of executive and non-executive directors can expect to be replaced.\(^8\)

Both takeover activity and the involvement of institutional investors in corporate affairs can be regarded as forms of corporate control. What is the fundamental power source of corporate control? It is the one share/one vote power of the property holder, and this voting right is the convention in the UK and the US (until 1986). As Jenkinson and Mayer continue to note:

In the UK more than 60 per cent of issued equity is held by financial and non-financial corporations... Nearly all is held by pension funds and life assurance companies on behalf of private investors. In the US, shareholdings have until recently been mainly held by individuals.\(^9\)

What is the convention in the Anglo-American economies is not so in other countries. The reason that the Anglo-American convention is non-existent in other advanced economies has little

\(^7\)Ibid., p. 3.
\(^8\)Ibid.
\(^9\)Ibid., p. 6.
to do with technical or administrative regulation, however. Corporate control in the forms of hostile takeover and the involvement of institutional investors is not necessary in other economies such as Germany and Japan.\textsuperscript{10} Jenkinson and Mayer characterize the corporate economies of Germany and Japan as "insider systems" as opposed to the "outsider systems" of the UK and the US. While corporate ownership is dispersed among a large number of individual and institutional investors in the outsider system, it is concentrated in other firms, banks, and families in the inside system.\textsuperscript{11} It is accordingly argued that the insider system provides Germany and Japan with such important qualities as stability of management\textsuperscript{12} and cooperation among firms.\textsuperscript{13}

As for our problem of managed competition and opportunity sharing, an important point suggested in the debate on corporate control is that many writers seem to liken the Japanese system to the German one or group them together. The most important reason for this grouping or typology seems to stem from the similarity of the financial system. John Zysman, for instance, groups Japan, France, and Germany as the economies that have the credit-based system of corporate finance. As he summarizes, "Like the

\textsuperscript{10}See, for instance, Kester, 1992; Schneider-Lenne, 1992.

\textsuperscript{11}Jenkinson and Mayer, 1992.

\textsuperscript{12}Schneider-Lenne, 1992.

\textsuperscript{13}Kester, 1992. Commonalities between Germany and Japan were observed not only by recent managerial economists such as Jenkinson, Mayer, Kester, and Schneider-Lenne but also by historians and political economists who take a broader perspective.
system in Japan and France, the transformation of savings into investment and the allocation of financial resources are dominated by the major banks and achieved primarily by loans."\textsuperscript{14} These powerful German banks then form the "tutelary banking system" in which the banks have the "market power over the sources of finance for industry and their legal rights to own substantial stock in corporations and to exercise proxy votes for other shareholders."\textsuperscript{15} As for corporate control, Zysman's second point on the German banking system is particularly important. As he points out, "the exercise of equity rights by proxy or one's own portfolio is entirely legal matter, not strictly a matter of influence in the relations between financial markets."\textsuperscript{16}

"The major German banks therefore sit at the center of the system of corporate finance. They are universal banks, engaging in the widest range of activities on an extensive deposit base."\textsuperscript{17} A net result of having such tutelary banking system is the close relationship between the banking and industrial sectors, and this relationship has been well documented. As Jurgen Kocka has described from a historical perspective:

The major banks provided their industrial customers with long- and short-term loans, which constituted three-quarters of their balances in 1913 ... Gradually, as expansion and

\textsuperscript{14}Zysman, 1983, p. 260.

\textsuperscript{15}Ibid., p. 261.

\textsuperscript{16}Ibid.

\textsuperscript{17}Ibid., p. 262.
merger became more frequent and more significant than the establishment of new enterprises, long-term credit became the main basis of the banks' relationship with industry... Because of their close tie with industry, the banks began, in contrast to earlier decades, to seek direct influence over manufacturing firms' high-level decisions.\textsuperscript{18}

Observations made by Kocka and Zysman are echoed in Alfred Chandler's recent work. Chandler characterizes the corporate economies in the US, the UK and Germany as "competitive managerial capitalism," "personal capitalism," and "cooperative managerial capitalism" respectively.\textsuperscript{19} Like Kocka and Zysman, Chandler notes the importance of banks, particularly a handful of the largest Kreditbanken called Grossbanken, as a key element of the cooperative managerial system of Germany. In addition to the banking system, Chandler also pays attention to the legal and cultural traditions which do not prohibit cartels and cartel-like behaviors. Conventions, consortia, and formal associations among corporations have been easily formed while "contractual arrangements remained difficult to negotiate and even more difficult to enforce."\textsuperscript{20} The dual board structure is another institution that makes German firms tend to maintain long-standing cooperative relationships. The dual board system was instituted as early as in 1870 in Germany with a view to facilitate the close relationship between banking and industry and thus provide bank representatives with a means of control.

\textsuperscript{18} Kocka, 1980, p. 90.

\textsuperscript{19} Chandler, 1990, p. 12.

\textsuperscript{20} Ibid., p. 423.
over industry. The Joint Stock Corporation Act of 1884 stipulated that the joint stock corporations (Aktiengesellschaft, or AG for short) have three bodies: board of managing directors (Vorstand); supervisory board (Aufsichtsrat); and shareholders' general meeting (Hauptversammlung).\textsuperscript{21} Even though the management board makes and implements long- and short-term policies, Chandler interprets, it is the supervisory board (whose members are selected from the majority shareholders and the banks) that facilitates and assists inter-firm cooperation with their traditional influences on the management board. The supervisory board's influence over the management board is not difficult to imagine when we consider that the management board members are appointed by the supervisory board with a two-thirds majority.

As we shall see shortly, however, the German system of corporate governance is significantly different from the Japanese system. The most important difference is that while German boards of directors consist of the members who are not employees of the corporation, the Japanese boards consists mostly of internally promoted employees. In other words, Japanese board members are not representatives of shareholders, no matter if individual or institutional, but of the employees themselves. Even though executive officers of the corporations or banks that belong to the same keiretsu can be member of Japanese firms'\footnote{For a detailed discussion of these bodies, see Schneider-Lenne, 1992, pp. 14-15.}
boards, these members do not represent the *keiretsu* member firms or banks as shareholders.\textsuperscript{22}

Another notable difference lies in the ways in which the boards work. The Japanese board members are elitist in nature and hierarchical in organization. They are elitist because they simply represent the highest-ranking officers of the corporation; they are also hierarchical because the board members reflect the hierarchical ladder of the company, with the chairman and/or president at the pinnacle of the decision making authority who oversees senior managing directors, managing directors, and directors. In contrast, the German boards are a "collegiate system" where members bear collective responsibility for the company. The chairman is not the pinnacle of power but is considered *primus inter pares*.\textsuperscript{23}

Corporate governance in France is also different from that in Japan. The most important factor that divides France and Japan is the fact that family control in large public corporations is strong in France while it is nil in Japan today. As Zysman found, in the early 1980s, "of the two hundred largest firms in France, nearly forty are still in family hands (majority control) and another sixty appear to be dominated by the owning family."\textsuperscript{24} Another factor not found in Japan is the

\textsuperscript{22}A majority of UK board members are "insiders." But here the "insider" means the person who is inside to the company ownership, not the salaried employee of the company.

\textsuperscript{23}Lane, 1995, p. 57.

\textsuperscript{24}Zysman, 1983, p. 113.
nationalization of enterprises in the early 1980s, which might have a significant impact on corporate France. Regarding corporate control, the pattern of nationalization is believed to have a great impact particularly because of the retired high civil servants who sit on boards though the system of pantouflage. In this vein, Lane states that corporate governance in France is based more on technocracy than on economic property. While the management of French companies is commissioned to retired elite bureaucrats, the management of Japanese companies is entrusted to salaried managers.

II. AGENCY CAPITALISM AND THE CONDITIONS FOR MANAGED COMPETITION

To sum up the above comparative discussion, what is critically missing from Japanese capitalism is the power of the investing public itself. Japanese corporate managers enjoy high degrees of autonomy and decision making latitude, however. Not only are they autonomous and powerful, they share certain norms pertinent to their class that function as the corporate decision making framework. This is "agency capitalism." Moreover, managed competition in general and opportunity sharing in particular are derivatives of, and thus can be best explained by, the internal logic of agency capitalism. What are the factors

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25 Lane, 1995, p. 60.
behind the advent of agency capitalism? What historical events contributed to the formation of agency capitalism? What are the major implications of such events? The uniqueness of the conditions in which the Japanese corporate elites are embedded and the resultant uniqueness of the nature of their decisions, particularly with regard to inter-firm relationships, are to be understood in the context of these historical questions.

A. The Power Shift

One of the greatest testimonies to the weakness of the investing public in Japan is the "fossilization" of the general shareholders' meetings. Unlike the powerful shareholders' meetings in western companies who have de jure, if not de facto, control, the Japanese shareholders' meetings have become "fossilized and functionless," and thus perfunctory. As E. Sakakibara wrote, "The stockholders' annual general meeting ... is reduced to nothing more than a skeletal ceremony." Indeed, the meetings are short-lived. It has been reported that "[T]he average length of the annual shareholders' meeting held in June 1987 by 1,082 listed companies (70 percent of all listed companies) was only twenty-nine minutes, suggesting that little

\[ ^{26}\text{Hirata, 1982.} \]

\[ ^{27}\text{E. Sakakibara, 1993, p. 12. The word "skeletal" here seems to mean perfunctory or meaningless.} \]
more than the straightforward approval of management proposals took place."\textsuperscript{28}

Nishiyama Tadanori calls this condition "the collapse of the joint-stock corporations" (\textit{kabushiki kaisha no hōkai}).\textsuperscript{29} With this collapse, the company becomes independent from its shareholders.\textsuperscript{30} Simply put, the essence of modern capitalism is missing in the Japanese variant.\textsuperscript{31} Accordingly, Matsumoto Koji, an ex-MITI official, calls the Japanese economic system "a new economic system .. inside a shell of capitalism."\textsuperscript{32} According to him, the central issues in Japanese business are the "essential breaking away from a capitalistic corporate structure and, related to that, the disappearance of many capitalistic

\textsuperscript{28}Odagiri, 1992, p. 39.

\textsuperscript{29}Nishiyama, 1975. In other works, Nishiyama refers to the same phenomenon as "the collapse of Japanese capitalism" (1980), "non-capitalism" (1981), or "post-capitalism" (1983).

\textsuperscript{30}It is true that the presence of institutional investors is growing in Western economies. But the Western institutional investors represent individuals who choose such institutions as means of saving and investment. In that sense, western corporations basically account for individuals who exercise their property right. On the other hand, Japanese institutional investors do not represent individuals who exercise property rights.

\textsuperscript{31} It is in this sense that the Japanese capitalism is dubbed as "non-capitalism" (Nishiyama, 1975; 1981; 1983), "post-capitalism" or "beyond capitalism" (E. Sakakibara 1993), "legal-person capitalism" (Okumura, 1991), "alliance capitalism" (Gerlach, 1992), or even "strategic capitalism" (Calder, 1993). All these writers agree that the degrees of control and governance by shareholders in Japan are crucially different from other advanced economies.

\textsuperscript{32}K. Matsumoto, 1992, p. vii.
characteristics from the overall economy."

In contrast to the weak principals, Japanese managers have decisional power and autonomy that have broken loose from the grip of corporate control. Their *de facto* control over their corporations is far stronger than that of their Western counterparts. As Iwata Ryushi notes:

> The stockholders do not control the company. Instead, the company controls the will of the shareholders. As a result, in a Japanese, company dividends are regarded merely as a capital cost and the interests of stockholders do not have top priority. Managers are freed from the restrictions of short-term perspectives and can set long-term goals."

These powerful Japanese managers are therefore rarely 'disciplined' by market forces (that is, by their principals). Top-level managers hardly ever lose their jobs for the reason that their companies are sluggish in growth and profit making. They dwell in a fortress, in which they have their own rules of reward and punishment. They are *kaisha* (company) men who are protected by their *kaisha*, and which they, in return, protect. Comparatively speaking, while the technocrats whom Galbraith characterized are still subject to market discipline, Japanese managers conform to a different kind of discipline, that is, social discipline.

These autonomous or "sovereign" managers are called "regular employees" (*seishain*) in Japan. They are mostly university-educated, white-collar, salaried employees. What is unique about

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"Ibid.

"Iwata, 1992, p. 175."
these salaried employees is that they form a coherent and homogenous class or stratum in Japanese society. Even though they work for different companies, their identity is stronger with the class within which they belong than with the company for which they work.

In what follows, then, I shall elaborate on the rise of this seishain class (and the fall of their principals) and the norms they share as frameworks for corporate decision making with particular reference to inter-firm relationships.

The most important point in understanding the nature and power of the seishain stratum is its historical origin and the unique qualities hammered out in the long process of industrialization. The question is, is agency capitalism -- characterized by the fall of principals and the rise of agents -- an outcome of piecemeal historical evolution?

The following episode illustrates that agency capitalism is not an outcome of linear historical development. Back home in Japan in 1916, after a 10-year stay in the United States, Takazaki Tatsunosuke, who later became the president of Manchuria Heavy Industries Development, Co., was surprised to observe how 'liberal' the Japanese economy had become, he remembers:

"First, employees move from one company to another, en masse and unnoticed. There are also frequent changes in senior management. Therefore, the company's direction is uncertain. Second, senior managers are interested not in laying the solid foundation of the company but in increasing dividends for shareholders; They are concerned not with performance of the company but in the price of company stocks. In other words, shareholder's power is absolute and
thus overrides what employees think."³⁵

This statement indicates that early twentieth-century Japanese corporations were more similar to today's American firms than today's Japanese firms in terms of corporate control. It is clear that today's Japanese corporations are the embodiments of historical events and contingencies (which must have taken place Takazaki's return) rather than the result of a smooth, linear evolution.

(1) Before World War II

Following the industrialization drive of the early Meiji period, there was a period of economic liberalism during which business organizations operated on the basis of relatively free market mechanisms.³⁶ During the Meiji period, according to Kataoka, individual shareholders exerted great influence in controlling managers and in deciding on such matters as mergers and acquisitions, except probably for zaibatsu.³⁷ The active exercise of shareholding power had contributed to many mergers


³⁶ The mercantilist Meiji government embarked on industrialization under the catch phrase of "Increase Production and Promote Industry" (shokusan kōgyō) during the period of 1868 through 1912. Many government-run factories had been built; but as the government faced financial difficulties, the public enterprises had to be sold to private ones. In the 1880s in particular, the Meiji government sold out (haraisage) many of its factories and works, particularly to giant zaibatsu such as Mitsui, Mitsubishi and Furukawa. This movement served as an incubator for many successful business organizations that still have a large presence in Japan today.

and acquisitions in the then key industry, the textile industry.\textsuperscript{38} The liberal tradition had continued through the Taishō era. During this period, industrial corporations depended more on financing through securities markets than on bank loans.\textsuperscript{39} Affluent capitalists' participation in industrial financing was important, particularly for non-zaibatsu corporations.\textsuperscript{40} Consequently, the power of investors and shareholders as principals of corporations was remarkable. Market institutions and practices were also liberal and close to the orthodox (Anglo-American) version of capitalism. Intervention by the government (including the military) in business affairs was rejected.

The liberal economic tendency of the early twentieth century is best illustrated by the data on the household sector's saving and investment. As suggested in Table 4-1, Japanese individuals were mainly interested in securities as a means of saving and investment. Particularly in the 1900s, securities accounted for two thirds of the household sector's savings. A radical change in the portion of securities in household sector's saving took place at the beginning of the 1930s. In particular, the current

\begin{flushleft}
\textsuperscript{38} Nagae, 1981.
\textsuperscript{39} See, for example, Teranishi, 1982.
\textsuperscript{40} Around the early 1930s, the presence of non-zaibatsu corporations was larger than that of non-keiretsu corporations of the postwar period. For example, in 1935, zaibatsu firms among top 30 manufacturing and mining firms numbered only 4. Of course, many of these non-zaibatsu firms could be classified as shinkō zaibatsu (new zaibatsu or konzern). 
\end{flushleft}
Table 4-1

HOUSEHOLD SECTOR'S SAVINGS (%)

<table>
<thead>
<tr>
<th></th>
<th>cash</th>
<th>demand deposit</th>
<th>insurance</th>
<th>securities</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1874</td>
<td>75.1</td>
<td>1.9</td>
<td>-</td>
<td>23.6</td>
<td>100</td>
</tr>
<tr>
<td>1881-90</td>
<td>25.8</td>
<td>15.5</td>
<td>-</td>
<td>57.6</td>
<td>100</td>
</tr>
<tr>
<td>1901-10</td>
<td>5.8</td>
<td>27.0</td>
<td>1.2</td>
<td>66.1</td>
<td>100</td>
</tr>
<tr>
<td>1911-20</td>
<td>4.7</td>
<td>49.9</td>
<td>2.3</td>
<td>43.2</td>
<td>100</td>
</tr>
<tr>
<td>1921-30</td>
<td>2.8</td>
<td>45.1</td>
<td>8.9</td>
<td>48.8</td>
<td>100</td>
</tr>
<tr>
<td>1931-40</td>
<td>6.8</td>
<td>56.1</td>
<td>12.9</td>
<td>24.5</td>
<td>100</td>
</tr>
<tr>
<td>1933-35</td>
<td>7.7</td>
<td>48.1</td>
<td>17.9</td>
<td>26.4</td>
<td>100</td>
</tr>
<tr>
<td>1936-40</td>
<td>6.0</td>
<td>64.0</td>
<td>7.4</td>
<td>22.6</td>
<td>100</td>
</tr>
<tr>
<td>1941-50</td>
<td>15.7</td>
<td>61.1</td>
<td>5.1</td>
<td>18.2</td>
<td>100</td>
</tr>
<tr>
<td>1951-60</td>
<td>3.8</td>
<td>69.3</td>
<td>6.8</td>
<td>20.1</td>
<td>100</td>
</tr>
<tr>
<td>1961-70</td>
<td>3.9</td>
<td>73.5</td>
<td>6.8</td>
<td>15.8</td>
<td>100</td>
</tr>
</tbody>
</table>

Japanese saving pattern seems to have settled around the mid-1930s when war mobilization was starting. This is paradoxical because the enlargement of the portion of securities within the entire national financial system has remained a consistent goal of the Japanese government. The observation of economic liberalism based on the household saving data is supported by the empirical data in the corporate portfolio. Statistics on shareholding for the pre-war period are not easy to find, but, according to a study, Tokyo Dentō, an electricity supplier, witnessed a 144-fold surge in the number of individual shareholders from 4,300 persons in 1915 to 623,000 persons in 1934. This meant the increase in the number of publicly sold issues, from 1 million shares to 8.6 million shares. A comparable outcome is found in the case of Nippon Yūsen, the famous Mitsubishi-zaibatsu sealer. The firm’s individual shareholders numbered 4,200 persons in 1915 and then 23,700 persons in 1934.  

This upward trend offers a vivid picture with Nippon Yūsen as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Portion of Shares Held by Individual Investors over Total Paid-up Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920</td>
<td>25.2%</td>
</tr>
<tr>
<td>1940</td>
<td>31.7%</td>
</tr>
<tr>
<td>1960</td>
<td>1.8%</td>
</tr>
<tr>
<td>1980</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Most of the profits earned by Japanese corporations are also

---

41Teranishi, 1993, p. 69.

reported to have been proportionally distributed to shareholders.\textsuperscript{43}

It is a tragedy that economic liberalism was after all taking place after in the midst of industrial expansion and the inception of fascism. Market liberalism was doomed to collapse in the face of the coming war. As a leading Japanese economic historian writes, the "inter-war period" was "a period in which the old order -- both in politics and in economics -- teetered on the verge of collapse while the new order had not yet taken shape."\textsuperscript{44} The most important development of this period was the shattering of once-prospering market liberalism.

Several Japanese economic historians consider the year 1920 as the turning point in the Japanese industrial order. In 1920, the ninth year of the Taishō reign, a serious depression occurred. The depression was followed by the Great Kantō Earthquake of 1923, the financial depression of 1927, and the world depression of 1929. What emerged from this period of economic depression was the ending of the so-called "Taishō Democracy" and the rise of military officers and reform-minded bureaucrats as the power elite.\textsuperscript{45}

\textsuperscript{43}Okazaki, 1994, p. 8.

\textsuperscript{44}Nakamura, 1983, p. 144.

\textsuperscript{45}A major blame was directed to the corrupt party politics. Popular frustration had taken the form of assassination or terror of political and industrial leaders including Hara Takashi (leader of Seiyukai) in 1921, Hamaguchi Osachi (leader of Minseitō) in 1930, Inoue Junnosuke (head of the Bank of Japan and then the
With the economic liberalism fading, criticism about the greed of capitalists who sat on boards of directors began to be levelled up.46 The famous document written by Takahashi Kamekichi entitled "The Joint-Stock Company: A Cause of National Decay" (Kabushiki Kaisha Bōkokuron) in 1930 reflected the atmosphere of the time. Attacks on capitalists were justified to some extent due to their irregular or unethical behaviors. Indeed, it was not rare to see both large shareholders and salaried managers committing 'moral hazards' against lending institutions and small shareholders.

Corrupt accounting and artificially-determined dividends not based on profits (takiō haitō) had taken place regularly. Directors on boards had enjoyed hefty bonuses. For instance, in 1928, 25 out of 62 electricity firms used in average 10% of annual profits for board members' bonus payments. On the other hand, the government lacked prudential regulation, particularly following the Bank of Japan's lax monetary supplies during the 1920 and 1921 depressions.47

46 Of course there were efforts made to defend the capitalist class. See, for example, chapter 6 of Marshall, 1967.

47 Teranishi, 1983, p. 70. Teranishi attributes these moral hazards of the 1920s to three different reasons. First, there were heavy financial speculations after World War I as the short-term financial markets were booming. Second, Japanese firms had just begun to depend on external funds, which provided opportunities for large shareholders and managers to consider their private advantages.
The marketplace was not the only place where the talk about limiting rampant capitalist freedom found fervor. The atmosphere in which the weakening of shareholders and separation of ownership and management had developed as well in the military. The "Army Pamphlet" (Rikugun Pamfuretto)" circulated in October, 1934 expressed outright disillusionment with "individualism" reflected in the "present [financial] organization" and insisted on revamping it for the purposes of "natural resource development, promotion of industries, expansion of exports, and consolidation of military preparedness."48 The Pamphlet, reflecting the tenor of the time, was drafted by nationalistic, young elite soldiers. The key figure was Ikeda Sumihisa, an army major who was at that time a policy study group leader (seisaku hanchō) in the Ministry of War.50 Young elite army officers including Tojo Hideki, among others, were under his leadership.51 All of these young army officers had studied at

48 The formal title was "On the True Meaning of National Defense and its Enhancement" [kokubō no hongi to sono teishō].

49 Cited in Ito, 1984, p. 54. A former ranking navy officer, Iwata Yoshio, recollects that the Pamphlet contained such causes as re-evaluation of the notion of national defense; determining the elements of defense capability; international situation and its implications; and re-emphasis on the needs of new defense policies.

50 With degrees from the Army Academy and the Army University (so-called the "elite course" for military officers), Ikeda had studied economics at the University of Tokyo from 1929 to 1932.

51 Important members of the Army who participated in drafting the Pamphlet were: Nagata Tetsuzan (Army's first Mobilization Section head; key link with reform bureaucrats); Tojo Hideki (Army's second Mobilization Section head; prime minister during the Pacific War); Imamura Satoshi (a key hard-liner of the Kwantung Army; supported Nagata and Tojo); Muto Akira (a key hard-liner of
the University of Tokyo between 1930 and 1933.\textsuperscript{52} They had also sought like-minded elite "reform" bureaucrats (kakushin kanryō) such as Kishi Nobusuke, a famous post-war prime minister, to carry out economic mobilization.\textsuperscript{53}

A radical change in the relationship between government and businesses took place with a dramatic incident on February 26, 1936. The incident was that a group of young army officers had staged a coup against the 'corrupt' government and capitalists. This "February 26 Incident" (Niniroku Jiken) helped militarists realize the plan to expand war preparation and speed up national mobilization. The Japan-Manchuria Financial and Economic Study Group (Nichiman Zaisei Keizai Kenkyūkai), founded by Ishihara Kanji in 1935, drafted the plans for war preparation and national

\begin{center}
\begin{quote}
the Kwantung Army); Tominaga Kyoji (a key member of the Tojo-controlled Army); Kagesa Sadaaki (one of the Army's key China policymakers).
\end{quote}
\end{center}

\textsuperscript{52}Y. Iwata, 1986, p. 28.

\textsuperscript{53}The key "reform-minded" bureaucrats (kakushin kanryō) who had worked with Ikeda, Nagata, Tojo and their followers were: Goto Fumio (Ministry of Internal Affair's key reform bureaucrat; Tojo cabinet's portfolio minister); Kishi Nobusuke (reform bureaucrat of MCI; a postwar prime minister); Karasawa Toshiki (reform bureaucrat of MIA; a key figure behind the oppression of the Japan Communist Party, the Shōka Gakki, and the press) Owada Keiji (a reform bureaucrat of the Ministry of Agriculture; famous for the "Food Security" thesis or shokuryō anboron); Fujii Soji (a reform bureaucrat of the Ministry of Posts and Telecommunications); Okumura Kiwao (a reform bureaucrat of the Planning Bureau; Tojo cabinet's chief of intelligence); Sakomizu Hisatsune (a reform bureaucrat of the Finance Ministry; postwar Ikeda cabinet's Minister of Economic Planning Agency); Koganei Akira (a reform bureaucrat of MCI; postwar Ikeda cabinet's Minister of Posts and Telecommunications); and Aiwakawa Katsuroku (a reform bureaucrat of Police Agency).
mobilization.\textsuperscript{54} These plans, whose central objective was to build basic/heavy industries in Japan and Manchuria, became official government policies in early 1937 with support from the business community. Following the expansion of military expenditure in 1936, trade and prices began to be controlled in 1937, and also a "planned economy" \textit{(keikaku keizai)} began the same year.\textsuperscript{55}

A more concrete measure to keep capitalists under control was instituted with the implementation of the National Mobilization Law (NML) of 1938, which regulated dividends and loans of corporations. The single most important goal of the NML was the expansion of production capacities \textit{(seisan kakuju)}. A new debate within the policy establishment arose as to whether private corporations of the important industries should be merged to form champions of each industry \textit{(ichigyō issha)} or should they be nationalized.\textsuperscript{56} Although the opinions within the Cabinet Planning Board (CPB) and the Army favored to nationalization, the reform bureaucrats had to realize that nationalization of corporations involved in key industries was simply beyond the

\textsuperscript{54}At this time, Ishihara (1889-1949), a central figure in the Japanese movement toward fascism and the building of the Manchukuo puppet state, was the Chief of the Operations Section \textit{(Sakusenka)} of the Kwantung Army.

\textsuperscript{55}For the notion of planned economy, see Okazaki, 1988 and C. Johnson 1982. The national economy was based on five different kinds of planning: (a) trade; (b) material mobilization; (c) expansion of production capacities; (d) financial allocation; and (e) manpower mobilization (See, for example, Okazaki and Okuno, 1993).

\textsuperscript{56}Miyajima, 1993, p. 311.
financial capability of the government. In addition, they knew that "it is impossible to impose collective orders to private corporations that are wholly owned by private individuals."57

At the same time, while the CPB and the Army were inclined to disregard the corporations' profit motivation in the course of planning and executing of war mobilization, the Ministry of Commerce and Industry (MCI) was sympathetic to the needs of private businesses. The MCI's idea was to provide monetary incentives to the activities related to war mobilization. The MCI's intention was solidified as the industry-specific law (jigyōhō) for strategic industries.58 With powerful policy instruments such as subsidies, tax exemption and favorable depreciation arrangements, the MCI was able to control private corporations' entry into and exit out of strategic industries and to induce them to strike a balance between private and national purposes.59 For the corporations that fell under the jurisdiction of industry laws, the MCI instituted schemes with which the corporations could figure out production costs and 'optimal profit' (tekisei rijun).

As Okazaki summarizes, "wartime economic control in its early stages brought about enormous changes in the positions in the firm held by both the employees and the stockholders in pre-


58These industry-specific laws came to serve as prototypes for many industry promotional laws in the postwar period. See, for example, C. Johnson, 1982.

war times." In this way, individual investors were gradually deprived of their privileges and power at the same time that employed managers were empowered. As the war broke out in 1939, full-fledged economic control was now in place. The first step was the establishment of "Industrial Patriotic Society" (San'yō Hokoku Kai; Sanpō for short), which was based on a socialist doctrine called "Industrial Relations Adjustments Measure" (Rōshi Kankei Chōsei Hōsaku). The Measure stated that each firm should become an "organic organization" to serve the national purpose. Before the establishment of Sanpō, the voice of employees was barely heard or acknowledged. For instance, the labor organization rate had remained at only 3% in 1936.

Naturally, the lifetime employment practice was not seen during the pre-war period. Laborers lacked the means to protest against severance from work, which considerably reduced their commitment to their firms. But, under the Sanpō system:

> a peculiar type of social democracy emerged in each firm...

The Sanpō organization destroyed the traditional social distances and status differences between managers and workers, office employees and factor hands, more educated and less educated, males and females, and young and old. Despite these differences in function, position, and

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60 Okazaki, 1993a, p. 190.

61 Sanpō was created under a grand goal of making harmony in capital-labour relations and thus preventing labour disputes. Under the slogan of "enterprise as a family" (jigyō ikka), the Sanpō unit conceptually emulated the traditional Japanese family (ie). Sanpō membership reached 3.5 million by 1940 (41 percent of all employees in the case of manufacturing only) and 6.4 million by 1945 (Duus and Schneider, 1988, p. 645).

62 Okazaki, 1994, p. 8. This figure jumped to about 50% in the immediate postwar years.
ability, all persons had equal dignity and importance as "members of the enterprise" working for the collective objective -- maximal output for the country."

A crucial effect of this development, among others, was the recognition of employees as members of the firm and the degrading of stockholders." The following quotation from a commentary written by an Ministry of Welfare official in April, 1938 reflects the spirit of the time:

The goal of the majority of shareholders is to make money by buying and selling stocks according their price changes, but without making any efforts... If corporation's profit is swayed by such people who have control over managers, it is a serious defect of the corporation system ... Even for the profit of the corporation, employees have much larger stakes and responsibility than shareholders who hardly show up." This spirit was then embodied by the Ordinance on the Distribution of Corporate Profits and Fund Acquisition (Kaisha Rieki Haitō oyobi Shikin Ryūtsū Rei) of April, 1940.

A finishing touch of economic control was added in 1941 when the "New Economic System" (Shin Keizai Taisei; NES) was inaugurated." With the outbreak of the Pacific War in 1940, the Japanese economy had come under a serious depression, which

63Duus and Scheiner, 1988, p. 647.
64Okazaki, 1993a, p. 188.

66The New Economic System reflected the ideas of the Cabinet Planning Board, which overrode that of Ministry of Commerce and Industry at that time. But CPB's initiative did not pass without any resistance from the business community. Right after the NES scheme was announced, many business leaders attacked it.
was further aggravated by the virtual failure of the Production Capacities Expansion Plan initiated in 1939. Faced with the growing sense of crisis, reform bureaucrats began to feel the need to convert the national economic structure to that which would be suitable for war. The spirit of this time was well reflected in a speech by an ex-minister of the Cabinet Planning Board. In a speech given at Keio University on 19 December 1940, Takeuchi Kakira, the ex-minister of Cabinet Planning Board (Kikakuin) and a member of the House of Peers (Kizokuin), explained the spirit of the expansion of production capacities:

What must be the basis of the expansion of production capacities? From the vantage point of economic liberalism, the basis can be said to be the pursuit of private interest... But we do not think so... The pursuit of private interest is not the engine of the expansion of production capacities... We need to free ourselves from the liberal thinking and to organize and plan (our economy) so we can concentrate on and expand production capacities... The nation must wake up and advance to establish the system of the national defense state (kokubō kokka taisei).  

The "separation of capital and management" was conceived against this historical background. The need to curb the power of shareholders was accepted by the bureaucratic elite at the time. For instance, the original draft of the Guideline on the Establishment of the New Economic System (Keizai Shin Taisei Kakuritsu Yōkō) of 1940 contained a clause that said 'corporations should be distanced from the rule of capitalists whose primary goal is to maximize profits'. Thus the target of reform was private firms: according to the Outline, the firms

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should be 'set free from control of stockholders' pursuit of profit making'. With this goal in mind, the directive called for the revision of the Commercial Law and assignment of the public nature to management.\textsuperscript{68} The essential points indicated in the draft [of the NES Outline] were:

- To introduce reforms in the Commercial Law; the separation of ownership and management in the firm; and the establishment of a public character of the firm and of manager's status ... The free-hand control over the firm exercised by managers was guaranteed not only in their relationship with stockholders or financial institutions but also in their relationships with workers."\textsuperscript{69}

With this growing tendency, the separation of ownership and management was later formalized by the enactment of the "Munitions Corporation Law" (Gunju Kaisha Hō) of 1943.

NES had taken concrete measures to make sure shareholders were contained. The Ordinance on Controlling Corporate Accounting (Kaisha Keiri Tōsei Rei) was created in October, 1940 for the purpose of controlling dividend and fund procurement. According to this Ordinance, dividends that would surpass 8% of the paid-up capital in any given year or those larger than the

\textsuperscript{68}On the financial front, banks had taken the central stage in the Japanese industrial history. As Nakamura suggested, financial institutions had received relatively larger paid-up capital as well as government support (Nakamura, 1983, pp. 63-68). In the period prior to World War I, joint stock corporations were formed by samurai-bureaucrats, political businessmen (seishō), city merchants, and rural landlords. As Nakamura wrote, "With limited liability they could invest a portion of their personal holdings, but also, as stockholders, they were able to participate in planning and management. The corporate form certainly did speed capital accumulation but just as certainly it worked to the advantage of traditional landlords and merchants" (Nakamura, 1981, p. 110).

\textsuperscript{69}Okazaki, 1993a, pp. 193 and 198.

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previous year's dividends were to be reported to the Minister of Finance for approval. The Ordinance also controlled incentive payout for directors. NES worked further to transform the composition of the managerial class. Many outside board directors were replaced by those elected by and from the employees.

Ever since the beginning of the Pacific War, entrepreneurs and capitalists had been questioning whether private corporations should be the tool for the government's drive for "production first" (seisan daiichi shugi). Therefore, even though the military and bureaucrats wanted to "insert the surgery knife" to the corpus of corporate Japan, it was also feared that such a move would bring any major damage to the general state of munitions production. In this context, the "responsible production method" (seisan sekinin sei) was probably a smart move. It would tighten government control while not inviting any critical backlash from industry.

Under this circumstance, it was only natural that "capitalists" lost their place in corporate Japan. In reality, a silent but serous revolution had taken place in the Japanese economic community, particularly since the announcement of the 1941 New Economic System. As suggested in Table 4-2 adopted from Nishiyama's survey, the number of cases of corporate control by

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Table 4-2
Changes in the Control Structure of Japanese Joint-Stock Corporations

<table>
<thead>
<tr>
<th>changes in control from</th>
<th>1920 - 40</th>
<th>1940 - 60</th>
<th>1960 - 80</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>%</td>
<td>number</td>
</tr>
<tr>
<td>capitalist to capitalist</td>
<td>100</td>
<td>93.5</td>
<td>97</td>
</tr>
<tr>
<td>capitalist to non-capitalist</td>
<td>5</td>
<td>4.7</td>
<td>412</td>
</tr>
<tr>
<td>non-capitalist to non-capitalist</td>
<td>1</td>
<td>0.9</td>
<td>19</td>
</tr>
<tr>
<td>non-capitalist to capitalist</td>
<td>1</td>
<td>0.9</td>
<td>0</td>
</tr>
<tr>
<td>total</td>
<td>107</td>
<td>100.0</td>
<td>528</td>
</tr>
</tbody>
</table>

purchases of bonds increased from 1940 and onward. The number of outsiders, however, had gone down gradually, to reach zero by the end of World War II. On the other hand, of course, internally promoted boards of directors (who are actually salaried employees) became the deciding majority. As Matsumoto writes, "The board of directors in a Japanese company is comprised almost solely of internal directors who have risen through the company's ranks. Besides being directors, these men usually also have functions in daily company operations." Today, for instance, NEC has 42 members on the board of which 41 members are internally promoted salaried managers with one member (again a salaried man) coming from NEC's affiliate company.

But a more important fact was that corporate ownership had moved from large individual investors ("capitalists" in Nishiyama's language) to other joint-stock companies ("non-capitalists"). The time around World War II was a period in which ownership of Japanese corporations moved from the hands of entrepreneurs and zaibatsu families to the public. As the table suggests, the shift "from capitalists to non-capitalists" accounted for 78% of the total ownership changes.

Even within the zaibatsu, power shift was inevitable. One result of war mobilization was the decrease in the number of shareholders sitting on the board of directors who were outsiders of the zaibatsu. Entering the 1930s, many large corporations,

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71 Nishiyama, 1983.

mostly zaibatsu firms owned by families, had to offer their stock to the public to meet fund demands created by war preparation.\textsuperscript{73} As suggested in Table 4-3 and reported by Okazaki, outside directors were gradually replaced by internal promotions, and the process reached completion during the post-war period.

While the power of capitalists was belittled, their employees' power rose radically. First, the traditional functions of corporate monitoring and control were now reserved for the bureaucrats, who assigned authority and prestige to salaried managers of important corporations. The government's discretionary power was also further augmented; it could now appoint managers of private corporations.

The grand finale of pre-war control of private corporations had come with the enactment of the Munitions Corporation Law (Gunju Kaisha Hō) of 1943. The foremost goal of the Law was to put "ordering, supply, and management" (hatchū, henchō, kanri) of air and naval equipment under one single source of control, that is, the Munitions Ministry. For this purpose, all civilian cooperative organizations (minkan kyōryoku dantai) related to munitions production were united under the name of the Aircraft Industry Association (kōkū kōgyōkai).\textsuperscript{74} Unlike the control

\textsuperscript{73}Besides, new zaibatsu (shinkō zaibatsu) issued large volumes of securities for their heavy and munitions industries. The Nissan zaibatsu was the typical case which relied more on securities than on bank loans. This new wartime development made the separation of ownership and control a dominant trend.

\textsuperscript{74}The representative examples were the Army's aircraft industry association (Rikugun Kōkū Kōgyōkai) and the Navy's industry association (Kaigun Kōgyōkai). But the effectiveness of these
Table 4-3
Changing Compositions of Boards of Directors
(1935 - 1951)

<table>
<thead>
<tr>
<th></th>
<th>1935</th>
<th>1942</th>
<th>1945</th>
<th>1947</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>zaibatsu firms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>internal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>promotions</td>
<td>36</td>
<td>48</td>
<td>49</td>
<td>89</td>
<td>94</td>
</tr>
<tr>
<td>shareholding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>outsiders</td>
<td>16</td>
<td>8</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>secondments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>from zaibatsu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>headquarters</td>
<td>15</td>
<td>13</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>non-zaibatsu firms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>internal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>promotions</td>
<td>32</td>
<td>54</td>
<td>49</td>
<td>74</td>
<td>95</td>
</tr>
<tr>
<td>shareholding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>outsiders</td>
<td>23</td>
<td>11</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* The zaibatsu firms here include:

  Mitsui Mining
  Mitsubishi Kogyō
  Tōyō Rayon
  Mitsubishi Electric
  Sumitomo Cable

Mitsubishi Heavy Ind.
Sumitomo Metals
Nihon Flours
Sumitomo Chemical
Tōyō Koatsu

** The non-zaibatsu firms here include:

  Oji Paper
  Kanebo
  Kawasaki Shipbuilding
  Asano Cement
  Dai Nippon Höseki

Nippon Kōgyō
Tōyo Hoseki (Spinning)
Nippon Petroleum
Dai Nippon Beer
Nippon Wool

Source: Okazaki, 1993b, p. 104
councils that had the function of representing private corporations, this association stopped just short of being the liaison between the military and industry.

The "Outline on the Measure to Clarify the National Nature of Corporations" (kipō no kokkasei Meikakuka Sochi Yōkō) of March, 1944 decided that "optimal dividends" of some 5% a year would be guaranteed. All other shareholders' rights regarding the disposition of profits, and appointment of directors, and floating of corporate bonds would be stopped. Moreover, the balance after the payment of optimal dividends was to be used as "compensation" (hōshō) for salaried managers and laborers according to the rule decided by government.

B. After World War II

The post-war economic history of Japan starts from the "democratization" of the Japanese economy by the Supreme Command of Allied Powers (SCAP) government. One of the first things the SCAP did was to purge 'militarists and ultra-nationalists' from the government and businesses. The 1948 Law for Termination of Zaibatsu Family Control removed many owners cum managers from large corporations. The dissolution of the zaibatsu by the SCAP organizations was seriously questioned due to the continuing conflict and confrontation between the Army and the Navy.

government was completed as a result of three different programs. The first one was the dissolution of holding companies; the second, the limitation of economic concentration; and the third, the spread of shares owned by zaibatsu families. With the democratization of Japan, liberal Americans in the general headquarters (GHQ) of the SCAP government believed that one short-cut to economic democracy, was to place the Japanese corporations back into the hands of the general public. GHQ attempted to build a democratic corporate economy in Japan based on three principles: (1) individual-centered ownership for corporate control with employee ownership; (b) equity finance; and (c) a market for corporate control. In order to democratize the economy, the SCAP thought that ownership of securities had to be opened up to the general public.

In 1945, the securities owned by the government, which amounted to 25.2 billion yen (57% of all paid-up corporate capitals), were sold to ordinary households. More specifically, the securities-driven democratization (shōken minshuka) movement

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76For a classic study of zaibatsu dissolution, see Hadley, 1970.

77Miyajima, 1994, p. 3.

78In November, 1945, the GHQ-SCAP initiated the dissolution of the zaibatsu with the Memorandum on the Dissolution of Holding Companies of dissolved the zaibatsu. Detailed actions were then taken by the Holding Company Liquidation Commission. Not stopping at the dissolution of zaibatsu, the GHQ promulgated, in the form of an Imperial Ordinance (#567), that anyone owning 10% of a corporation's stock resign from the executive board for the reason that "any large shareholders should not have any definite influences on a company's decision" (GHQ/SCAP, 1951-b, cited in Miyajima 1994, p. 7).
specified that (1) the priority in purchase is given to company employees, (2) no purchase will be made by zaibatsu holding companies, and (3) any entity will not be allowed to purchase the securities which will account for more than 1% of any corporation. The goal was to realize "people's capitalism"; more specifically, it was a great stride towards the "democratic dispersion of securities" or "democratization or popularization of corporate ownership." The MOF Minister, Yano Shotaro, described it well:

> The direct channelling of capital owned by the public to industrial corporation [through ownership of securities] must be the way in which democratization of the national economy advances... From now on, it ought to promoted that the public owns securities with ease that they feel about having bank accounts."

This statement represents the spirit of the time which was nothing short of a manifesto of the liberation of the principals of corporate Japan who had been oppressed under economic

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79 In order to prevent re-concentration of economic power into a few hands, the anti-trust law of 1947 prohibited industrial corporations from holding stocks and restricted financial institutions from holding stocks. At the same time, the Securities Trade Law of 1947, modelled after the US Glass Steagall Act, blocked the access of commercial banks to the underwriting and dealing businesses of securities, either by themselves or through their affiliated securities firms. This indicates that the problem of deep involvement or dominance of commercial banks in the securities business was recognized at time already. Not only was concentration of economic power discouraged, ownership of securities by employees was promoted. "This indicates that GHQ originally thought not only of external control, or a market for corporate control, but also that a certain type of internal control should exist as desirable ownership pattern" (Miyajima, 1994, p. 6).


mobilization. Thanks to the 'economic democratization' drive, the portion of shares of individuals and households of all registered Japanese corporations had reached some 70% in the late 1940s.\textsuperscript{82}

But had corporate Japan really succeeded in bringing corporate ownership back into the hands of the general investing public? The following paragraph written by a group of editorial writers of \emph{Nihon Keizai Shim bun} makes it clear that the democratization through 'securitization' of industrial financing had failed:\textsuperscript{83}

"Japanese corporations' rush to the capital markets for financing is continuing... It looks as if 'direct industrial finance' was settling down in Japan... But, did the revolution from the dominance of 'intermediate industrial finance' to 'direct industrial finance' succeed? The answer is no... The deep-seated dependence on intermediate finance since the Meiji Restoration is the very limit of such pledged revolution... Current false prosperity of financial businesses is the outcome of pseudo-direct finance laid on the solid foundation of intermediate finance... Even public and corporate financial officials do not have any plausible explanation for this fundamental fault of the Japanese financial system, which has no precedence in other parts of the world and in other times."\textsuperscript{84}

Then, what happened? How did the revolution declared by the SCAP government and then the Japanese government fail?

A new turn that took away momentum from the securitization drive had arisen from an unexpected direction. As the Japanese 


\textsuperscript{83}The term 'securitization' (shōkenka) refers to the trend or state in which a growing part of corporate financing is implemented through the medium of securities replacing bank loans.

\textsuperscript{84}Utsunomiya et al., 1990, p. 6.
economy had begun to pick up a momentum in the late 1940s and new developments also occurred. The most important was the Dodge Line of 1949. With this policy, GHQ aimed at establishing fixed Dollar-Yen exchange rates and suspending new loans from the Reconstruction Financing Bank. The central goal of this policy measure was to shift the Japanese economy from a planned economy to a market one. A vastly important but unexpected result of this critical change was the stock market collapse that took place in August 1949. On the supply side, stocks were in surplus in the market. Stocks poured out not only from the dissolved former zaibatsu firms but also from the 'special accounting firms'. As such, capital investments had skyrocketed from late 1948 to reach a peak in 1949. The demand side, however, was gloomy. Industrial corporations' performances were poor with low profits and dividends. Besides, the tight fiscal and monetary policy had elevated the real interest rates. It was thus natural that small investors flocked toward banks and shied away from securities. In consequence, stock prices collapsed. With the stock prices falling, employees began to sell their own stocks. According to a survey, only half of stock-holding employees were willing to hold their stocks for more than two years.85 The securities firms came to face more difficulties because they had large inventories, now under a very risky market situation. Besides, as their holdings were obtained by purchases from high-rate, short-term bank loans, capital and operational losses were

85Miyajima, 1994, p. 25.
too heavy for securities firms.

The stock market collapse was serious enough to change the GHQ stance and acknowledge the need for institutional ownership. On this issue, which later came to have a major impact on the nature of corporate Japan, the US and Japanese sides differed in their ideas on how to design the post-war Japanese economy. While GHQ wanted to curb institutional ownership mostly as a result of fear of intercorporate ownership of securities, the Japanese side regarded it "desirable, or at least inevitable."\(^{86}\) From the end of 1949, life insurance companies had begun to buy stocks with the money obtained from the selling of national bonds to the Bank of Japan. The BOJ also requested that "the city banks cooperate in the financing of securities purchases and encourage purchasing for their own accounts."\(^{87}\)

But a far more important retreat from the 'economic democratization' movement took place with the gradual expansion of the "legal persons" who became institutional holders of securities and who came to dominate corporate Japan. The first major development to that direction was the revision of the Antimonopoly Law (originally proclaimed in 1947) in 1953.\(^{88}\) This event was initiated by Keidanren in 1952. In December 1952, Keidanren's Industrial Policy Committee (sangyō seisaku iinkai) submitted an opinion paper entitled "Opinion Demanding the

\(^{86}\) Ibid., p. 9.

\(^{87}\) Ibid., p. 28.

\(^{88}\) It can be also called the antitrust law.

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Revision of the Antimonopoly Law" to the government. In that "Opinion," Keidanren argued that the Antimonopoly Law had been created "under the special circumstance of the SCAP Occupation" and "now had many aspects which were not appropriate to the current reality of the Japanese economy causing considerable hurdles for the stability and development of the national economy."  

One of the key demands made by Keidanren was the lifting of the ceiling of financial institutions' ownership of shares of industrial corporations, from 5% to 10%. At that time, Keidanren's Opinion had been fully backed by the Policy Affairs Research Council (PARC) of the Liberal Democratic Party, MITI, and Economic Planning Agency.  In the face of this powerful offensive, the Fair Trade Commission could not but realize that revision was inevitable, and the best of all, all it could do was to maintain the fundamentals of the law. After a long review, the Law was officially revised in 1953, and reflected Keidanren's demands. The revised law allowed the formation of cartels under certain conditions and relaxed requirements for the exchange of personnel, mergers, and cross-shareholding among firms. In a nutshell, the 1953 revision became the basis for the expansion of institutional investors vis-a-vis individual shareholders and the formation of "industrial groups" (keiretsu) out of pre-war

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90Misono, 1987, p. 76.
Another important development toward the "legal personization" (hōjinka) of corporate ownership was the concentration of corporate ownership within the hands of related -- mostly through keiretsu -- firms in the name of the "operation to create the stable shareholdership" (antei kabunushi kōsaku) in the late 1960s and the early 1970s. A "stable shareholder," as Paul Sheard defines aptly, is someone who "holds the shares as a 'friendly' insider sympathetic to incumbent management, agrees not to sell the shares to the third parties unsympathetic to incumbent management, particularly hostile take-over bidders or bidders trying to accumulate strategic parcels of shares." A key point here is that stable shareholding means "implicitly contracting away some of the property rights associated with the shareholding, in particular property rights pertaining to the transfer of the shares or the exercise of corporate control." From Sheard's definition, it is clear that "incumbent management" is the largest beneficiary of this system of stable shareholders. As long as stable shareholders guard individual principals away from corporate decision making, it is in the interest of 'incumbent managers' (that is, agents) to protect stable shareholders. Rhetorically speaking, the "operation" (kōsaku) of creating and maintaining stable shareholders is

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91Okumura, 1984, p. 57.
93Ibid., p. 318.
nothing short of defending the "castle" (shiro). Therefore, whenever there are purchases of equities of a company, "the company's managers are blamed for the failure in protecting their stable shareholders."95

Then who are these stable shareholders? They are mostly financial institutions (who came to be allowed own up to 10% of the shares of industrial corporations with the 1953 revision of the Antimonopoly Law). The leading stable shareholders of Mazda Corporation in 1991, for instance, were five trust banks (Sumitomo, Mitsubishi, Mitsui, Toyo, and Yasuda, two commercial banks (Sumitomo and Hiroshima), six insurance companies (Sumitomo Marine, Yasuda Marine, Tokio Marine, Nichido Marine, Dai-Tokyo Marine, and Mitsui Marine), and two long-term credit banks (IBJ and Nippon Credit Bank).96 To cite another example, Tobishima Corporation, less known than the first-tier keiretsu firms, has a similar composition of stable shareholders. Top shareholders in 1991 are four trust banks (Yasuda, Mitsubishi, Mitsui, and Toyo), five commercial banks (Fuji, Mitsubishi, Mitsui, Sanwa, and Hokuriku), and four other financial institutions (Nippon Credit Bank, Yasuda Marine, Tokio Marine, and Mitsubishi Real Estate).97

95Ibid., p. 107.
96Sheard, 1994, p. 315.
97Ibid., p. 317.
The case of Mitsukoshi Department Store, a Mitsui keiretsu firm, offers a good illustration of expanding institutional (and stable) shareholders and dwindling individual shareholders. In 1940, the only financial institution that was on the list of Mitsukoshi's top-ten shareholders was Mitsui Life Insurance Co., which had held 1.8%. On the other hand, the total of large individual shareholdings was 27.4%. Forty years later, however, in 1980, all leading shareholders were financial institutions (like with Mazda and Tobishima) except for the unions of Mitsui- or Mitsukoshi-related employee shareholders. Their total holding was 37%. In contrast, individual shareholding accounted for zero in 1980.98

Corporations own each other through what is called "cross-holding" (mochiai) of shares.99 Most of the leading corporations have a large of number of subsidiaries and 'affiliate firms' (kanren kaisha). The parent firms are deeply involved with the public offering and then portfolio management of subsidiaries and affiliate firms and exert immense influence. For example, Hitachi, Ltd. leads a group of 33 firms at present. Hitachi, Ltd. has shares in all of these firms and maintains the majority position (more than 50%) in 23 firms. As one commentator notes, "Shareholders of these firms where the parent firm has a share of more than 50% do not have any realistic

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99For cross-holding of shares and its economic implications related with keiretsu, see Okumura, 1984; 1986.
influence whatsoever."\textsuperscript{100}

The failure of dispersing corporate ownership among a multitude of individuals and households -- that is, the failure of "economic democratization through securitization of industrial financing" -- is now reflected in the dominance of intermediate financing over direct financing, which translates into the dominance of banks over securities firms. On the other hand, Japanese individuals have stayed dependent on demand deposits -- at commercial banks and post offices -- as a source of saving and investment. In 1940, commercial banks and savings banks accounted for about 46% of deposits made by the general public, and the same deposits for 1987 were 36%, indicating a fall of only 10%. (Nevertheless, the portion accounted for by five major city banks had increased from 15.5% in 1940 to 21.4% in 1987).\textsuperscript{101} Postal savings were responsible for 16% of the entire deposits made in 1940, and in 1987, 15%. Ironically enough, buying securities as a means of saving and investment was smaller than the savings at the post offices. While an average American put 23% of his financial asset in current and savings deposits and 15% in stocks in 1987, his/her Japanese counterpart channelled a lion’s share (55%) in savings deposits, and only 10% into stocks.\textsuperscript{102}

\textsuperscript{100}\textit{Nikkei Business}, 8 October 1990, p. 15.

\textsuperscript{101}Extracted from the data suggested in E. Sakakibara, 1993, p. 18.

\textsuperscript{102}Ibid., p. 17.
The Japanese government has not been silent about this problem of the dominance of indirect financing over direct financing. There were a few important government campaigns with which Japanese government attempted to "normalize" industrial financing in general and the dominance of indirect financing over direct financing in particular. One was the 1962 measure to implement the New Financial Adjustment Method (shin kín'yū chōsetsu hōshiki; NFAM). The essence of the measure lay in shifting the central credit allocation mechanism from the BOJ's loan management to bond transactions.\(^{103}\) The grand goal of the policy was to "normalize" (seijōka) industrial financing in Japan. Indeed, the official reply from the Financial System Investigation Council (Kín'yū Seidō Chōsa Kai), which executed the study commissioned by the government, included the following objectives:

To expand the "direct financing route" by fostering capital markets; and

To "normalize" the firms' financial conditions by improving their portfolio structures (e.g., expansion of paid-up capital).

Disappointingly, however, the campaign proved to be a failure, except for having some propaganda value for the government. The primary reason for the failure lay in the fact that sales to the

\(^{103}\)The NFAM basically consisted of two measures: First, the BOJ put the cap on the amount of loans that can made to each commercial bank. When the amount was exceeded, a high interest rate was to be applied as a "punishment." As such the policy attempted to make the bond operation the main credit control mechanism, putting loan management into the supplemental position for coping with seasonal fluctuation in fund needs.

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BOJ were on the condition that the resale price be at the official rediscount level. Therefore, transactions were virtually fixed in price, and thus were not substantially different from loan management.

The deepening of the secondary markets through transactions of government bonds has not taken place either. The deepening was a primary official goal of the 1975 campaign to issue deficit government bonds on a massive scale, for the first time in the Japanese history. One positive side effect was the stimulation of the "individual digestion" of securities (kosin shōka) (i.e., diversion of individual savers' attention from bank and postal accounts to securities as a means of savings and investments), which would, in turn, enlarge the share of direct finance in the entire national flow of funds. There were several important reasons for the failure. First, the system was not completely based on the market principles; it was rather directed by the market-conforming government intervention. Foremost evidence was that prices were controlled. Second, the government, both MOF and BOJ, was dependent on private actors to implement the policy. In this sense, both government and private actors were mutual hostages for favors and reciprocity was the driving force which set the policy in motion. Third, the government policy was expediency-oriented. Public offerings of government bonds were made only at times of monetary relaxation. Some may argue that the role of 'market-type' financial transactions had picked up momentum and was, therefore, increasingly replacing the role of
'bargaining-type' transactions. A typical appeal for this argument is that industrial finance in Japan has been under the increasing influence of "securitization" (kokusaika), "internationalization" (kokusaika), and "liberalization" (jiyūka).  

Detracting individuals from their preoccupation with bank deposits and reorienting them to other forms of asset management has been regarded as the key to the modernizing of the Japanese financial markets. But this official revolution on industrial financing (sangyō shikin chōtatsu kakumei) has not proven successful so far. As Eisuke Sakakibara, a high-ranking MOF official, notes, the system backing the "Beyond Capitalism" of Japan is:

a financial system proper that has been kept fragmented by government regulations, thus forcing financial institutions to offer tremendous incentives for depositors, and in turn fostering a high national savings rate. Consumer finance, by contrast, has occupied a trivial niche in the overall Japanese financial landscape.  

The above observations of the "legal-personization" (hōjinka) are clearly reflected in statistical data. As suggested in Table 4-4, financial stakes in corporate Japan are increasingly in the hands of banks and industrial corporations themselves while essential principals (that is, individuals) and their ordinary agents of property management (that is, securities firms) are shrinking in presence. The data also explain the

104See, for example, Takase, 1988.

105E. Sakakibara, 1993, pp. xix-xx.
<table>
<thead>
<tr>
<th>year</th>
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<th>trust funds</th>
<th>securities firms</th>
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<td>7.9</td>
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<td>17.8</td>
<td>7.5</td>
<td>3.7</td>
<td>46.3</td>
</tr>
<tr>
<td>1965</td>
<td>23.4</td>
<td>18.4</td>
<td>5.6</td>
<td>5.8</td>
<td>44.8</td>
</tr>
<tr>
<td>1970</td>
<td>23.4</td>
<td>18.4</td>
<td>1.4</td>
<td>1.2</td>
<td>39.9</td>
</tr>
<tr>
<td>1975</td>
<td>34.5</td>
<td>26.3</td>
<td>1.6</td>
<td>1.4</td>
<td>33.5</td>
</tr>
<tr>
<td>1980</td>
<td>37.3</td>
<td>26.0</td>
<td>1.5</td>
<td>1.7</td>
<td>29.2</td>
</tr>
</tbody>
</table>

source of the dominance of indirect financing (commercial trust banks) over direct financing (securities firms) in Japan.

III. THE NORM OF MANAGED COMPETITION

In the previous section, I elaborated on the genesis of the Japanese corporate elite. Now I want to answer the question, who is this corporate elite or the "stratum of regular employees" (seishainō)?

The Japanese corporate elite is marked by, among other things, a relatively higher degree of coherence and homogeneity compared to their Western counterparts. The regular employees of Japanese corporations rise up through uniform education, from elementary school to high school or college. More important than school education, however, is corporate education. Within the context of the legal fiction embodied as joint-stock corporation (hōjin), seishain are educated to conform to the value system created and administered by this ruling social stratum. 106 For instance, Japanese corporations are said to employ new recruits "who show the possibility of becoming the 'absolutely identical person type' (zettai dōitsu ningen)." 107

As national characters are identified largely through the

106 Tsuda, 1994, p. 166.
107 Ibid., p. 166.
nature of the national leadership, values and norms which the Japanese corporate elite share can be identified through the nature of the corporate leadership. Tsuda calls this leadership group a "social stratum" (shakaisō) that creates and dictates corporate ideologies. The command of the Japanese regular employees is exercised by the 'directors' who have risen through the ranks themselves. The core group of Japanese corporate elites is the class of directors cum salaried managers (jūyaku or yakuin). Western firms, on the other hand, have two tiers of top managers, one consisting of directors representing shareholders and the other, full-time salaried executives. Compared with this, there is only one kind of board of directors in Japan, which consists of salaried executives who have risen through the ranks within the lifetime employment system. The stratum is usually made up of a hierarchy of senior managers (chairman, president, senior managing directors, managing directors, directors). Even though there have been famous or legendary top executives in Japan, this group functions as a collective rather than as individuals.

During the pre-war period, the most typical corporate decision-making center was the position of the senior managing director (senmu torishimari yaku), a position unique to Japanese corporations. After the creation of the Commerce Law in 1893, shareholders tended to hold the positions of presidents or

chairmen. Many of them, however, lacked the necessary expertise or social charisma, so the senmu torishimari yaku, invariably internally-promoted executives, were given full authority and decision making power within the company. Later, around the time of World War I, the authority and power of internally-promoted Japanese directors expanded with the creation of managing directors (jōmu torishimari yaku) and directors (hira torishimari yaku).110

In the post-war period, the "managing directors' meeting" (jōmu torishimari yakuinkai or jōmukai in brief) was said to be the most important. "A unique Japanese organization," the jōmukai is said to be widespread since 1952.111 As a forum for discussion rather than decision or consultation, the jōmukai worked as the organ within which all executive officers gathered for counsel.112 The jōmukai is characterized by two important aspects: first it is a place where consensus is hammered out (zen'in kōichi sei); and second, the members are invariably the employees who have risen through ranks in the company.113 For instance, Sumitomo Bank is reported to have maintained what was called kōgi yakuin sei (consensus-based, director-level decision making). Within this system, managing directors were responsible for leading Director-level division heads and developing

112 Ibid., p. 187.
113 Ibid.
consensus-based plans or recommendations to the board meeting for final decision making.\textsuperscript{114}

The power vested with the top managers of the Japanese corporations is remarkably large considering that they are only salaried employees. To some, "Japan’s top managers are like tonosama (the feudal lord). If the company is uji (a lineage), the president is the ujigami (its tutelary deity)... The president is almighty within the company."\textsuperscript{115} For others, "Japanese managers often combine an executive function with a supervising function, somewhat akin to playing the twin roles of U.S. executive and corporate directors."\textsuperscript{116} For instance, as for the salaried president’s power to appoint directors, Arai Kimio, former president of Tokyu Agency Co., said:

Even though the selection of directors is the prerogative of the general shareholders’ meeting, the power is usually delegated to chairman or president... In appointing directors, most important categories are (a) the president’s policy; (b) the appointee’s potential contribution to the company’s future; and (c) the atmosphere of the company (as to the appointment).\textsuperscript{117}

The fact that the chief executive of Japanese corporations must consider whether a new director is suitable (fusawashii) for the company’s atmosphere means that the latter is an "invisible

\textsuperscript{114}Tsuda, 1994, p. 241.


\textsuperscript{117}Cited in Tsuda, 1994, p. 7.
power" in corporate decision making.\textsuperscript{118} In order to survive and have a successful career (shusse), then, regular employees have to conform to the norms they create, inherit, and share as a class.

As such, salaried Japanese business elite are not only powerful decision makers; but also leaders and implementers of norm conformity within the seishain stratum. They lead the way of the "corporate fighters" (kigyō senshi) or "corporate human beings" (kaisha ningen) who are (or will be) equipped with homogenous belief systems and dispositions. Regular company employees who are represented and led by their leaders will share a system of values and ideas. Even though social norms can take on the form of abstract notions, they remain as important determinants of corporate behavior. Conformity to these norms can be voluntary and morally based, yet it can also be a matter of class pressure and sanction. Tsuda Masumi explains this pressure effect in terms of "atmosphere" (kūki). According to him, Japanese organizations are "ruled by and conform to the atmosphere."\textsuperscript{119} In management literature, this atmosphere is discussed in such scholastic (or euphemistic) terms as "corporate atmosphere" (shafū), or "corporate culture" (kigyō bunka), or "corporate lifestyle" (kigyō no funiki).\textsuperscript{120}

The corporate atmosphere or culture is often reflected in

\textsuperscript{118}Ibid., p. 9.

\textsuperscript{119}Ibid., p. 4.

\textsuperscript{120}Ibid., p. 8.
the "company motto" (*shaze* or *shakun*). For the purpose of communicating and promoting this ideology among employees, rhetoric is widely used in the form of company mottos. Mito believes that the company motto serves as the framework for the behavior of employees. According to him, the three most widely cited company mottos in surveyed 360 companies were: harmony (*wa*), sincerity (*seijitsu*), and endeavor (*doryoku*).\(^{12}\)

Then how do these powerful Japanese managers make decisions? What are their criteria or principles in making decisions on inter-firm relationships? A survey of the extant literature and empirical data (including interviews) suggests that there is a belief or ideology that the majority of the Japanese corporate elite share: the corporation is not a private entity but a social one, and therefore it ought to last forever. It is also from this belief that the norm of inter-firm cooperation stems. Two important, related elements -- autonomy and coherence of the Japanese corporate elite -- are also intermingled in this belief that regular Japanese employees share. For instance, in the Eighth National Convention of the *Keizai Dōyūkai* in January, 1955, Sakurada Takeshi, the then president of Nisseki Hoseki Co., pronounced that "the essence of the managerial spirit is to take charge of (*azukaru*) enterprises as public organ (*kōki*)."\(^{122}\) This "thesis of private corporation as public organ" (*kōkiron*)

\(^{121}\)Mito, 1991, p. 190.

\(^{122}\)Cited in Noda, 1988, p. 480.
has been confirmed time and again by the Japanese business elite whenever there is the chance. In a survey conducted by the Nihon Keizai Shimbun in 1981, Mita Katsushige, the then president of Hitachi, Ltd., reportedly made the statement that "the Japanese corporation is a social entity (shakaiteki sonzai)."¹²³

A fundamental philosophical ground for the notion of the corporation as a social entity or a public organ is that the joint-stock corporation is not simply a purely private property of shareholders. The private corporations, the Japanese corporate elite believe, do not belong to individuals, but to the society as a whole. In the 1981 Nihon Keizai Shimbun survey among chairmen and presidents of 100 leading corporations, for instance, a majority (64 percent) of respondents replied that their corporations belong to managers and employees as well as to shareholders while only 18 percent replied that they belong only to shareholders.¹²⁴ Ten years later, with younger section-chief (kachō) level managers, a similar survey was conducted by the same newspaper. In this 1990 survey among 104 section chiefs from a wide variety of companies, the majority answered that Japanese corporations belong to the rather complex entity which combines shareholders, managers, and rank-and-file employees (Table 4-5). In reality, they responded, the Japanese corporation belongs to employees (77%) or to managers (65%) rather than to shareholders (59%). Some even think that the

¹²³Ibid.

¹²⁴Nihon Keizai Shimbun, 6 August 1981.

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Table 4-5

JAPANESE CONCEPTION ABOUT
THE JOINT-STOCK CORPORATION

(A survey with 104 section chiefs
of Japanese corporations)

(multiple answers)

<table>
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<th>the corporations</th>
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<td></td>
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<td>belong to (dare no mono de</td>
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<th>group</th>
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<td>59%</td>
</tr>
<tr>
<td>managers</td>
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<tr>
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<td>77%</td>
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<td>70%</td>
<td>23%</td>
</tr>
<tr>
<td>customers</td>
<td>27%</td>
<td>26%</td>
</tr>
<tr>
<td>community</td>
<td>10%</td>
<td>3%</td>
</tr>
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</table>

Source: Nihon Keizai Shimbun, April, 1990.
Japanese corporation belongs to the society (23%) or to customers (26%).

The social nature of the Japanese corporations was also revealed in the replies to the question: who are the managers most conscious of as stakeholder? It was revealed that Japanese managers were conscious of: (a) employees; (2) final consumers (of products and services); and (3) the company as a whole. The majority (62%) of respondents replied affirmatively to the question of whether they think managers and employees take the leading roles (shuyaku) in Japanese corporations.

The notion of social responsibility stems from this philosophy of the enterprise as public organ. In 1973, under a general atmosphere of critical self-reflection about the post-war, rapid-growth period as well as the implications of the Oil Crisis, the Committee for Economic Development (Keizai Dōyukai), a national association of relatively young business executives, perpetuated a grand catchphrase of the "social responsibility" (shakateki sekinin ron) of business enterprises. In its public statement titled "For the Establishment of Mutual Trust between the Society and Business Enterprises" (Shakai to Kigyō to Sōgō

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But they appear to be aware of the problem contained in such reality. Therefore, shareholders as the owner of the corporation turned out to have a larger share in the "ought to" category (67%). But more middle managers believe that the corporation ought to belong to employees (80%) and/or the society (70%). A sharp fall from 65% to 19% concerning the managers (usually top managers in Japanese parlance) seems to reflect their disapproval of the concentration of power on the senior management.

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125 Nihon Keizai Shimbun, 6 August 1981.
Shinrai no Kakuritsu wo Motomete) made on 16 March 1973, Keizai Dōyūkai made it clear that Japanese firms pursue two divergent sets of goals of "inherent functions" (honrai no kinō) and "social responsibility" (shakaisei). With regard to the functions inherent to business organizations, Keizai Dōyūkai listed such goals as producing 'an effective supply of good and safe goods and services', giving an optimal income distribution for employees, providing safe and pleasant work places, and securing shareholders' interests. The association then defined the social responsibility of business organizations in terms of taking "behaviors that are socially acceptable" (shakaitekini yoninsareru kōdō). These socially acceptable behaviors included 'the creation of better social environments', 'urban development and the creation of local communities', 'development of human resources within and outside of business enterprises', and 'the establishment of the welfare society'.

As for the dilemma for private enterprises that they should pursue social responsibility as well as profit, some business leaders even came up with a paradoxical logic that "the profit is the reward which private enterprises receive from consumers in exchange for the former's implementation of social responsibilities. Therefore, it is not right to regard the pursuit of profit as fundamentally evil." Iwasa Yoshizane, a

\[127\] Cited in Matsumoto 1993, pp. 119-20.

\[128\] Huga Hosai, the former president of Sumitomo Metals, in his speech at the 11th national convention of Keizai Dōyūkai in 1964, cited in Noda, 1988, p. 495.
former head of Fuji Bank provided a better interpretation of the connection between the divergent notions of profit and social responsibility. His view, which is not idiosyncratic at all among the Japanese corporate elite, is summarized into the famous notion of the "optimal profit" (tekisei rijun). According to him, the optimal profit refers to the surplus with which an enterprise pays salaries to its employees and bears other expenses so that the enterprise can sustain itself. Therefore, it is a social responsibility for managers to maintain the optimal profit so that their firm can exist eternally as part of the society.\textsuperscript{129}

If the private corporations belong to the society, it is easy to reason that they would last as long as society exists. Each Japanese corporation may have its own management philosophy or ideology, yet the most important concern of Japanese managers regarding their companies' goals is its perpetual existence. Likening the modern Japanese corporation to the family (\textit{ie}), Mito confirms that the primary goal of the Japanese corporation is to continue to exist rather than to maximize profits; and the latter only serves the former.\textsuperscript{130} From the angle of organizational collectivism, Hazama argues that the key of the growth of Japanese corporations has been the supplementary relationship between two divergent goals: continuance of the corporation as

\textsuperscript{129}Mitsui Bussan, 1977, pp. 91-92.

\textsuperscript{130}Mito, 1991, p. 173.
the group and the pursuit of private interests.\textsuperscript{131}

Nishiyama argues that the goal of Japanese corporations lies in maintaining the organization itself (soshiki no ishi), and not in profit maximization.\textsuperscript{132} The idea of the permanent existence of the corporation often takes the form of rhetoric. As Wakabayashi writes:

\begin{quote}
The goal of the Japanese corporation is to continue the contributions to the society in terms of creation and distribution of social values. The reason of being for the Japanese corporation lies not in continuing its existence but in making contributions to the society. Therefore, when a Japanese corporation loses its social values, it should either shrink or disappear.\textsuperscript{133}
\end{quote}

A Japanese management scientist spells out a similar characterization:

\begin{quote}
At the initial stage [of Japanese capitalistic development], the development of a corporation meant economic betterment of capitalists or entrepreneurs. Today, however, the development of a corporation means continual existence of the corporation, and the betterment of capitalists or entrepreneurs is not important.\textsuperscript{134}
\end{quote}

For instance, a director at Nissan Motors emphasizes the eternity of the firm, which will be guaranteed by competitive cooperation (kyōsōteki kyōchō).\textsuperscript{135}

When corporate decision makers are concerned with the permanent existence of their work places, but not with the

\textsuperscript{131}Hazama, 1971, p. 20.

\textsuperscript{132}Nishiyama, 1992, p. 37.

\textsuperscript{133}Wakabayashi, 1987, pp. 164-5.

\textsuperscript{134}Shimabukuro et al., 1987, p. 7.

\textsuperscript{135}Reply to Roh questionnaire, January 1995.
maximization of their shareholders' gains, each firm will try to maximize its presence in the pertinent market or industry. This phenomenon is usually referred to as the doctrine or tendency for "share maximization" (shea kakudai shugi). As Suzuki Tadashi, former president of Showa Denko, states:

The share maximization drive (shea kakudai shugi) still remains a guiding principle of Japanese corporations... The drive may be said to have brought today's prosperity... In general, manufacturing firms have been trying to expand their market shares and sales volumes by selling their products at below-the-market prices... I still don't understand how come this unseemly management principle has become a management principle.\textsuperscript{136}

W. Carl Kester makes a similar observation as he writes:

The goals of the [Japanese] company will be growth and longevity, with profitability a distant third priority. In fact, independent shareholders will rank fairly low on the list of constituencies whose interests management is to represent.\textsuperscript{137}

The notions of (market or industry) share maximization and the permanent existence of corporations may sound mutually contradictory. When each firm tries to maximize its presence in the given market or industry, everyone cannot survive. In Western economies, the defeats take the form of bankruptcy or become the object of hostile takeovers. In the case of Japan, however, bankruptcies of established corporations are very rare. According to my quick survey of the developments among the firms registered in the securities exchanges of Japan for the twenty-year period between 1975 and 1994 (a period in which more

\textsuperscript{136}Cited in Okumura, 1986, p. 129.

\textsuperscript{137}Kester, 1991, p. 21.
bankruptcies were expected because of the Oil Crisis of 1973), only the following eleven firms, among some 2,000, had disappeared due to bankruptcy (jiko hasan) or the application of the law concerning enterprise revival (kaisha kōsei hō).

Kaijima Coal Mining (1976)  
Bitai Industries (1977)  
Osaka Yōgyō (1977)  
Tanaka Machinery (1978)  
Rin Chemical (1980)  
Nitto Silver Mining (1982)  
Akigi Industries (1983)  
Sanko Steamships (1985)  
Kunimitsu Steel (1986)  
Nikatsu Corp. (1993).  

This is strong evidence for the fact that share maximization and longevity can go hand in hand.

The paradox of the compatibility of the orientation toward share maximization and longevity of the Japanese corporation can be translated into the compatibility of competition (for larger shares) and cooperation (in staying put). How can we then explain the dilemma of the pursuit of share maximization and the virtual non-existence of bankruptcy among large corporations? The answer can be drawn from the notion of the "market order" that Japanese corporate elites share.

In a survey conducted by the Economic Planning Agency (EPA) in January 1992, Japanese firms revealed consistent

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138 Figures in the parenthesis are years of bankruptcy. Mitsubishi Research Institute, Kigyō Keiei no Bunseki [Analyses of Enterprise Management], 1976 through 1995.
trends. As suggested in Table 4-6, the maximization of shareholders' interests is never mentioned as a company's doctrine while concerns are expressed for the welfare of consumers and employees. Even though a majority of respondents said that the pursuit of interests (that is, economic interests) is the basis of the company doctrine, the pursuit was professed with the condition that its "within certain moral rules" (setsudō no aru). Of the two key determinants of corporate behavior, the most important one proved to be the maintenance of the order in the industry. The second most important determinant was the realization of the interests, but of the entire keiretsu, and not of their owners.

A survey conducted by a group of management scientists at Toyo University in 1985 with 900 companies of 14 industries produced a similar result. With regard to the question 'what is the utmost goal of managers?, the results show that only one percent of Japanese managers appeared to be concerned with shareholders' interests [see Table 4-7]. On the other hand, fulfilling social responsibility came to be the dominant goal of corporate managers in the 1985 survey. As for the elements of social responsibility, pursuing economic interests "within the boundary that the firm does not deviate from social norms" was dominant.  

\[\text{139}^\text{Cited in Matsumoto, 1993, pp. 265-80.}\]

\[\text{140}^\text{Shimabukuro et al., 1987, pp. 42-58.}\]
### Table 4-6

#### Doctrines of Corporate Behavior

(multiple choices)

<table>
<thead>
<tr>
<th>Doctrines</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>pursue optimal interests within certain rule <em>(setsudō aru)</em></td>
<td>62%</td>
</tr>
<tr>
<td>provide good and inexpensive goods and services to consumers</td>
<td>57%</td>
</tr>
<tr>
<td>make efforts to provide employees with decent quality of life employees</td>
<td>51%</td>
</tr>
<tr>
<td>make efforts to provide employees with opportunities for self-realization and right placement</td>
<td>46%</td>
</tr>
</tbody>
</table>

### Two Key Determinants of Corporate Behavior

(multiple choices)

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>maintenance of the order of the industry <em>(kyōkai nai chitsujo)</em></td>
<td>57%</td>
</tr>
<tr>
<td>pursuit of profits of the entire keiretsu</td>
<td>49%</td>
</tr>
</tbody>
</table>

### Table 4-7
Goals of Japanese Managers

<table>
<thead>
<tr>
<th></th>
<th>1984</th>
<th>1985</th>
</tr>
</thead>
<tbody>
<tr>
<td>to maximize profits to serve the interests of all parties</td>
<td>47%</td>
<td>27%</td>
</tr>
<tr>
<td>concerned with the company (subeteno rikai kankeisha)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to fulfill social responsibilities</td>
<td>42%</td>
<td>64%</td>
</tr>
<tr>
<td>by carrying out the given roles of the company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to maximize profits to serve the interests of owners of the</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>company</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Nature of the Social Responsibility of Corporations

<table>
<thead>
<tr>
<th></th>
<th>1984</th>
<th>1985</th>
</tr>
</thead>
<tbody>
<tr>
<td>to pursue profits within the boundary that the firm does not</td>
<td>83%</td>
<td>78%</td>
</tr>
<tr>
<td>deviate from social norms (shakai no kihan)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to contribute to the social betterment, even at the expense of</td>
<td>10%</td>
<td>18%</td>
</tr>
<tr>
<td>the firm's economic interests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>undetermined</td>
<td>7%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Shimabukuro et al., 1987, pp. 42-58.
It is against this background of market order that the norm of inter-firm cooperation can be understood. Do today's Japanese managers really believe in and behave according to the philosophy of opportunity sharing with their rival corporations? In order to answer this basic question, I sent a questionnaire survey to all the director-level managers (except for presidents and chairmen) of the leading industrial corporations and commercial banks during the period of December, 1994 and January, 1995. Since there are nearly two thousand corporations listed on the Tokyo Stock Exchange, I selected seven heavy manufacturing and electric corporations and nine of the largest commercial banks that are main subjects of my case studies in aerospace R&D and industrial financing (see Chapters 5 and 6). A total of 462 questionnaires were sent to all directors, managing directors, and senior managing directors of these sixteen corporations.¹⁴¹

In order to focus on my principal question and to secure a high response rate, I designed a simple questionnaire that consists of two questions.¹⁴² The survey indicated that the mainstream economic presumption does not work in explaining decision making and behavior of Japanese corporations. Fifty-seven percent of Japanese senior managers rejected the law-like

¹⁴¹Personnel information of these senior managers was obtained from Daiamondo Publishing Co., Kaisha Shokuinroku [Corporate Rosters] (Tokyo, 1993).

¹⁴²For my survey, the response rate was 17.5 percent, with 81 answered questionnaires out of 462.
statement that joint-stock corporations ultimately exist for the sole purpose of maximizing their firms' interests leading naturally to the maximization of their owners' interests.

The result of the questionnaire survey supported my argument (Table 4-8). Among 81 respondents, a minority (35 respondents, 43%) upheld the mainstream economic belief that business corporations compete to maximize their own interests. Compared with this, a majority of respondents (46 respondents, i.e., 57%) either flatly rejected the mainstream economic belief or did not subscribe to it. A total of 36 respondents stated that their corporations would choose opportunity sharing, and not the maximization of opportunities, for its own sake. Ten respondents answered that neither (a) nor (b) entirely characterizes the stance of their corporations (as they understand it); decision making in Japanese corporations is to be explained by both economic and social terms.

In explaining why they chose the answer (b) (opportunity sharing with rivals), many suggested a seemingly abstract answer: that opportunity sharing will lead to long-term existence of the corporation. One may argue that this response supports the economic argument. But we need to be reminded that the suggested answer involves the interest of the corporation itself, and not that of shareholders. Several others phrased essentially the same answer in terms of securing the "eternal existence" of the firm by evading destructive competition. None of the reasons (or justifications) explained opportunity sharing. Some mentioned
Table 4-8
CORPORATE POLICIES ON 
THE RELATIONSHIP WITH RIVAL FIRMS

frequencies
(percent)

<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>monopolize or</td>
<td>26</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>maximize market</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>opportunities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>share them for co-survival</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>undetermined or both</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| industrial corporations | 26 | 21 | 7 | 54 |
| bankiing corporations  | 9  | 15 | 3 | 27 |
| subtotal               | 35 | 36 | 10 | 81 |
| (43%)                  | (44%) | (12%) | (100%) |

the contributions to society, but not to the shareholders.

In participating in the existing market or introducing new products, for instance, Japanese corporations seem to take to the road of "long-term co-survival" (chōkiteki kyōsei), and thus evade price competition, which could be detrimental to all of them. For this reason, even though Japanese corporations always attempt to maximize their profits in a given market, they end up choosing the market framework of co-survival.\textsuperscript{143}

For the reasons that industrial corporations should share opportunities with their rivals, one Nissan director pointed out three major factors such as (1) the "shoulder-by-shoulder" society (yokonarabi shakai); (2) the sharing of a value system; and (3) the need to share both happiness and misery.\textsuperscript{144} A director at MHI, for instance, said that while he wants to expand his company’s share in the market, he wishes neither to monopolize the market nor to hurt the relationship with the rival firms of the market.\textsuperscript{145} A senior managing director at Toshiba characterizes the Japanese markets as "revisionist market system" (shūsei shijō shugi) in which the harmony between rival corporations would eventually benefit corporations and their shareholders.\textsuperscript{146} An NEC director said that the corporate

\textsuperscript{143} The head of the Home Electronics/Information Media Division at Hitachi, in his reply to the Roh questionnaire, January 1995.

\textsuperscript{144} A senior manager at Nissan’s Engineering Systems Center in his reply to the Roh questionnaire, January 1995.

\textsuperscript{145} Reply to the Roh Questionnaire, January 1995.

\textsuperscript{146} Reply to the Roh questionnaire, January 1995.
decision regarding inter-firm relationships should be made with both short-term and long-term factors in mind so that the rivals that remain are able to "shake hands and at the same time compete" *(ippode akushu shi ippode kyōsō suru).*¹⁴⁷ A director at NEC likens this corporate behavior to individual human behavior. According to him, each corporation has its own social status or class, and undesirable conduct will harm its reputation, which will incur costs eventually.¹⁴⁸ Rival firms in the same industry even consult with each other in selecting the locations for investment abroad and then share pertinent information on such investments.¹⁴⁹

Some believe that city banks have the "public mandate" *(kōteki shimei)* of contributing to the society by supporting and fostering *(shien, ikusei)* industrial corporations. For this reason, banks must shy away from excessive competition from the vantage point of maximizing their market presence (i.e., size and profit).¹⁵⁰ A managing director at Daiwa Bank believes that banks must maintain stable working relationships with industrial corporations so that the former can provide the latter with active support (that goes beyond funding). When such relationships fail to exist, he believes, managers of industrial

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¹⁴⁷Reply to the Roh questionnaire, January 1995.

¹⁴⁸Reply to the Roh questionnaire, January 1995.

¹⁴⁹A director at Toshiba in his reply to the Roh questionnaire, January 1995.

¹⁵⁰A Director of DKB in his reply to the Roh questionnaire, January 1995.

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corporations will face serious trouble.\textsuperscript{151} A director at Sakura Bank (in charge of Tokyo business operations), believes that one bank's monopolization of the transaction relationship with a manufacturing firm is detrimental to the manufacturing firm because such monopolization will limit (sebameru) the opportunity for banks to share the information on the firm's products, credit situations, and manufacturing networking.\textsuperscript{152} A Dai-ichi Kangyo Bank director confirms that the shares of a syndicated loan for a new project are determined on the basis of the existing formula.\textsuperscript{153} In cooperative financing, it is also believed that the policy for industrial loans must be conceived from a broader "cooperative perspective" (kyōchō yūshi hōshiki) rather than from the "deal-by-deal" perspective in which banks compete for lending opportunities at each "spot." \textsuperscript{154}

\textbf{IV. CONCLUDING REMARKS}

One of the most important legacies of the history of corporate Japan is the continued dominance of the commitment to economic mobilization for national purposes. Among many

\textsuperscript{151}Reply to the Roh questionnaire, January 1995.
\textsuperscript{152}Reply to the Roh questionnaire, January 1995.
\textsuperscript{153}Reply to the Roh questionnaire, January 1995.
\textsuperscript{154}The General Manager of Mitsubishi Bank's Nagoya Branch, in his reply to the Roh questionnaire, January 1995.

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historical events and environmental changes, the most important impact can be found in the general background of war mobilization since the turn of the present century. In effect, a great transformation in the Japanese economic and corporate life was the demise of market liberalism and the rise of economic mobilization. Against this background, Japanese managers have evolved into social modernizers with important mandates rather than mere agents working for their principals. They maintain moral superiority towards the corrupt world of business even though they are in the middle of it. This social consciousness is reflected in the belittling of profit in the first place. The norm of cooperation among rival firms is a norm specific to managers and executives of Japanese corporations, and not to their all members. It is an elitist ideology which is stratum-specific. While the norm of inter-firm cooperation was born without the support of shareholders, it was created and has been nurtured in the context of a close affinity between government and industry. Therefore the nature and content of the norm of inter-firm cooperation must be discussed with reference to corporate elitism, its deep connection with (and reflection of) of national purposes, and coherence with the stratum of cadre managers.
CHAPTER FIVE

OPPORTUNITY SHARING IN INDUSTRIAL FINANCING:
THE CASE OF "COOPERATIVE FINANCING"

Why does a private banking corporation join a cooperative arrangement with its rivals? In order to answer this question, we need to define what is meant by "a cooperative arrangement" among banks. The only known form of inter-bank cooperative arrangement seems to be syndication. Syndication among banks is mainly found in two areas: lending and underwriting securities. There is a long tradition of cooperation among rival banks in Japan that is institutionalized in the practice called "cooperative financing" (kyōchō yūshi).

Cooperative financing for industrial corporations in Japan takes two specific forms of syndication among banks: the loan syndicate (yūshi shidan); and the bond-underwriting syndicate (shasai hikiuke shidan). Through these arrangements, commercial banks not only do their own banking business but also serve national industrial promotion by making sure stable supplies of funds are available for industrial corporations. Cooperative financing has been a central mechanism of industrial financing from the pre-war years even though it is not widely recognized; it has existed since the 1920s.¹

¹There seem to be two reasons for such a low level of recognition. First, there is an inflated perception of the role of main banks. But inadequate attention has been paid to the fact that virtually all keiretsu firms receive loans from the
Why do rival banks then participate in a syndicate? The most plausible explanation is that a bank participates because participation is in its interest. More specifically speaking, syndication can spread, and thus reduce, the risk of failure of loan recollection or of underwriting of large-scale issuance of securities. Noting the importance of loan syndication in the 1930s, for instance, Teranishi Juro argues that "the necessity of risk diversification was one of the most important reasons for organizing loan syndication at the time." In other words, "loan syndication during the early wartime period emerged as a response by banks to the necessity of risk diversification by means of syndication against a rapid reorganization of the industrial structure."

There is another line of explanation about bank syndication, particularly for Japan. The argument is that, as the relationship between the bank and the corporation becomes long-standing, the banks would accumulate information about the debtors and thus reduce the information or "monitoring" costs.banks of 'competing' keiretsu, mostly through the good office of their own keiretsu banks. Second, some recognize the importance of cooperative financing, but only the situations that are formally arranged by special banks (e.g., Japan Development Bank) and long-term credit banks. As in the case of cooperative financing arranged by commercial main banks, the cooperative loans arranged by special banks would impossible if not for the participation of commercial banks as syndicate members.

'Teranishi, 1993a, p. 22.

For instance, Horiuchi Toshihiro provides an account of clear-cut economic incentives of the participants towards the syndicate:

The borrowing firm reduces its costs. This is because banks avoid duplication of monitoring and administration when syndicating, and some of these savings can be captured by the borrower. Further the corporation can expect stable funding because of the long-run monitoring role of the manager bank. The manager bank can expect preferential profit opportunities in direct fees, as well as from deposit absorption and other fee business. Other member banks obtain lending opportunities without incurring the costs of gathering information or monitoring, or without acquiring the skills to do so.  

Whether it is reducing risk involved in large-scale lending or reducing costs of banking businesses, these accounts all suggest that cooperative financing, if it exists at all, serves the purpose of maximizing banks' (hence their shareholders') interests.

In this chapter, I test this interest maximization hypothesis as summarized above with the case study of bank syndication. The behavior of commercial banks is said to be most sensitive to the opportunities to reap profits. The interest maximization hypothesis will be tested in contrast to my hypothesis anchored on the concept of agency capitalism. The interest-maximization hypothesis as the explanation of bank syndication is rejected for two major reasons.

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'SEven though I refute it as the dominant explanation, the practice of cost or risk reduction is not denied. Japanese banks do share risks or costs, but this does not mean that the practice is the cause of syndication.
First, the notion of risk sharing premises the existence of risks that lead banks to enter syndicates in a patterned or institutionalized way. As I shall demonstrate in what follows, however, risks or costs of lending transactions have hardly ever surfaced as the dominant reason for forming loan or underwriting syndicates, probably except for the pre-war period when large-scale war financing, under extraordinary economic uncertainties, was a national task. In order to understand why the risk-sharing explanation does not work with current loan syndicates, we must note the differences between the syndicates of the pre-war and post-war periods. During the post-war period, syndicates were organized among banks so that industrial corporations could participate in national projects. In other words, the pre-war syndicates were cases of project banking (じぎょう けいゆう). Project-banking syndicates, usually large in scale and thus involving investment risks, are often found today in other countries. Almost all of these syndicates are organized by the financial institutions from multiple countries to fund international projects. These project-banking syndicates indeed are aimed at reducing risk for the main.

The kind of syndication that is at work today for Japanese industrial corporations has little to do with large-scale project financing unless the case is explicitly for international projects carried out overseas. The post-war version of

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"For exemplary cases of international loan syndication, see Chapter 2."
cooperative financing takes the form of coordinated loans for two purposes. One is the loan for investment in facilities (setsubi shikin), of which the maturity is longer than one year. A second kind is the loans to be used as operational funds (uten shikin), which are supposed to be paid back within a year. There are several key characteristics in the combination of these two kinds of loans. First, facility-investment loans are either arranged or led by special banks (e.g., the Export-Import Bank) or long-term credit banks (e.g., Industrial Bank of Japan). On the other hand, short-term, operational-fund loans are provided by commercial banks which form informal syndicates. Therefore, the logic of syndication is manifest most vividly in short-term loan syndicates. For this reason, the following discussion will focus on the short-term loans.

A second reason that weakens the power of the risk-sharing hypothesis is that risks hardly exist in the syndicates organized for premier industrial corporations. The lending market for large industrial corporations registered on the stock exchanges is a stable "proven" market that has little risk. This observation (which is widely shared by Japanese bank managers) is supported by the fact that there has been hardly any bankruptcy among those first-tier corporations. Therefore, while we cannot (or do not have to) reject the notion of risk sharing in a wholesale fashion, risk sharing is rather a post facto...

7In the case of industrial corporations that belong to keiretsu that have a city bank in the group, the city bank (as the "main bank") could lead the syndicate.
justification or the description of the function of syndication than an explanation of why it is created in the first place. In short, the risk-sharing hypothesis is a functional explanation and fails to delineate the conditions for the development of syndication in a particular context or economy. If syndication is such a proven mechanism for reducing risks and costs of banking businesses, why is it so rare in other economies while it is almost a rule in Japan? What explains this cross-economy variation?

In what follows, I will demonstrate why and how the interest maximization hypothesis fails to explain the creation and diffusion of syndication in Japan. As an alternative, then, an explanation anchored on the conditions of agency capitalism will be offered.

I. THE "COOPERATIVE FINANCING" IN JAPAN: EXEMPLARY CASES OF MANUFACTURING AND TRADING INDUSTRIES

Hitachi, Ltd. (Hitachi, hereafter), a comprehensive electric and electronics equipment manufacturer, is one of many Japanese manufacturing corporations that enjoys stable and reliable fund supplies through the institutions of cooperative financing. As a large-scale manufacturing firm with a long history, Hitachi is often regarded as one of representative industrial corporations
of Japan.\(^8\) When it comes to cooperative financing, Hitachi appears to be a most appropriate case study because Hitachi has three *de facto* main banks of Dai-ichi Kangyō Bank (DKB), Sanwa Bank, and Fuji Bank. Hitachi belongs to the 'presidents' club' (*shachōkai*) of three business groups: (1) Fuyō Business Group;\(^9\) (2) Sanwa Business Group;\(^10\) and (3) Dai-ichi Kangyō Business Group.\(^11\)

In the year 1993, Hitachi obtained loans, both short- and long-term, from the following set of banks:

<table>
<thead>
<tr>
<th>Long-Term Loans</th>
<th>Short-Term Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>(over 1-year)</td>
<td>(up to 1-year)</td>
</tr>
<tr>
<td>(order by loan size)</td>
<td>(order by loan size)</td>
</tr>
<tr>
<td>EXIM Bank</td>
<td>IBJ</td>
</tr>
<tr>
<td>Tōkyō Bank</td>
<td>DKB(^12)</td>
</tr>
<tr>
<td>IBJ</td>
<td>Fuji Bank</td>
</tr>
<tr>
<td>Sanwa Bank</td>
<td>Yasuda Trust Bank (Fuji group)</td>
</tr>
<tr>
<td>Fuji Bank</td>
<td>Sanwa Bank</td>
</tr>
</tbody>
</table>

\(^8\)Hitachi, Ltd. is said to be introduced as the 'barometer' of the Japanese manufacturing industry in the Japanese high schools' social sciences course. It seems that Hitachi, Ltd. maintains a good image with the Japanese public. As a historian of Hitachi, Ltd. writes, "Many Japanese who only learn about Hitachi, Ltd. through newspaper or television like me naturally tend to idolize the firm" (Shikishima, 1992, p. 2).

\(^9\)The business group is centered around Fuji Bank, Yasuda Trust Bank, and Yasuda Life Insurance. The group's presidents' club ("Fuyōkai") consists of 29 members.

\(^10\)The Sanwa Bank Group is centered around Sanwa Bank, Tōyō Trust Bank, and Nihon Life Insurance. Its presidents' club ("Sansuikai") consist of 44 members.

\(^11\)The Dai-Ichi Kangyō Bank Group has Dai-Ichi Kangyō Bank as its nucleus. The Bank was created as the merger between Dai-ichi and Kangyō Banks. It contains the Furukawa Group, a prewar zaibatsu. Its presidents' club ("Sankinkai") consists of 47 members.

\(^12\)The Dai-ichi Kangyō group does not have any trust banks.
In the above data, we can easily detect that five banks (IBJ, DKB, Sanwa, Fuji, and Tōkai) provide both long- and short-term loans to Hitachi. In the same year, Hitachi held bank loans amounting to a total of 162 billion yen in short-term loans.\textsuperscript{14} Of this total figure, 4 banks (IBJ, DKB, Sanwa and Fuji) accounted for 50.8%:

- IBJ 30 billion
- DKB 29 billion
- Sankwa 21 billion
- Fuji 20 billion.

There is nothing particularly notable in these spot statistics. But, an extension of the above relationships into a time-series data, as presented in Figures 5-1 (a) and (b), reveals more interesting facts. First of all, the transaction relationships are long-standing and stable. Dai-ichi Bank (which became DKB in 1971 through merger), Sanwa Bank, and Fuji Bank had maintained among themselves a 34:34:32 distribution of loans. After the 1971 merger of Dai-ichi Bank and Kangyō Bank (making DKB), the relative shares became roughly 4:3:3. This stable transaction relationship, in both long-term and short-term loans, accounts for about half of the entire bank borrowing of Hitachi.

\textsuperscript{13}Nihon Keizai Shimbunsha, \textit{Kaisa Nenkan} (Annual Corporate Reports), 1993.

\textsuperscript{14}The loans with the maturity of less than one year are classified as short-term loans in Japan. But the division between long-term and short-term loans becomes unimportant in many cases because the short-term loans continue to be renewed for extended periods.
Figure 5 - 1 (a): Shares of the Four Major Banks of the Hitachi Syndicate

Figure 5 - 1 (b): Four Major Banks' Shares - Cumulative

If we add the loans from IBJ, the four banks account for more 60 to 70%.  

Not only are the ratios virtually fixed, but changes in the ratios hardly take place. If any members of the loan syndicate insist on having larger shares, they will be given the opportunity to provide loans on separate accounts so that the changes do not affect the existing frame of work sharing. The Sanwa Bank manager says the above formula applies to "any kinds of syndicated loan for Hitachi-keiretsu firms." Corroboration for the above observations can be found when we examine the relationships between IBJ, DKB, Sanwa Bank, and Fuji Bank with major firms of the Hitachi Group. The Hitachi finance manager says the long-term relationship between Hitachi and the bank would not change unless something "decisively troublesome" occurs.  

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15As we shall discuss later, it is virtually meaningless to differentiate between long-term and short-term loans. The short-term loans, which technically mean those of 1-year maturity, are renewed almost automatically, bringing the same effect of long-term loans.

16Interview, Joint General Manager, Corporate Banking Department, Industrial Bank of Japan, Tokyo, 27 August and 9 September, 1992.

17There are many "independent business groups" (tokuritsu kei kigyō shūdan) that are formed around leading industrial corporations such as Hitachi, Toshiba, Matsushita, etc. Unlike 6 major business groups (Mitsubishi, Mitsui, Sumitomo, Fuji, Sanwa, and Dai-Ichi Kangyo), the independent business groups are the organizations that vertically integrate a large number of firms. As such they do not contain banks and service firms, resembling more the Konzern of the pre-war period.

18Interview, Manager, Finance Department, Hitachi, Ltd., Tokyo, 7 and 10 August 1992.
The stability of the loan syndicate for Hitachi is supported by a unique piece of evidence. The relationship between Hitachi and its loan syndicate has been so historically long-lived and stable that the arrangement has itself become institutionalized. For instance, in order to find out how much Sanwa Bank lends to Hitachi each year, the bank’s manager in charge does not have to take the trouble to consult his books. According to his "built-in image," as he puts it, four large banks maintain the annual shares of syndicated loan for Hitachi approximately as follows:

<table>
<thead>
<tr>
<th>Bank</th>
<th>Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Bank of Japan</td>
<td>29 billion</td>
</tr>
<tr>
<td>Dai-ichi Kangyō Bank (DKB)</td>
<td>28 billion</td>
</tr>
<tr>
<td>Sanwa Bank</td>
<td>20 billion</td>
</tr>
<tr>
<td>Fuji Bank</td>
<td>19 billion</td>
</tr>
</tbody>
</table>

His "image" proves to match the financial statistics that will be presented later. The Sanwa Bank manager was speaking out of the institutional memory of his Bank, not from his own personal knowledge. As a broad framework for decision making, the Sanwa Bank manager adds, there is some tacit understanding between Hitachi (the borrower) and DKB, Sanwa and Fuji Banks that the general shares will be approximately:

DKB: Sanwa: Fuji = 4: 3: 3.

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19 Such stable relations are also maintained between Hitachi Chemical, Hitachi Cable, and Hitachi Metals (that is, the three "sacred houses" within the Hitachi, Ltd.'s "independent" keiretsu) and the three banks.

20 Interview, Deputy General Manager, Sanwa Bank, Tokyo, 11 August 1992.
In addition to the issue of stability, there is an order of magnitude in the sizes of loans from the three main banks of Hitachi. Until 1970, the shares of Sanwa Bank and Dai-ichi Bank in Hitachi's loans were the same or nearly same to the point that this could not be accidental. With the merger of Dai-ichi Bank and Kangyō Bank in 1971, the new Dai-ichi Kangyō Bank's share became the largest. Since then the order of DKB - Sanwa - Fuji in terms of loan size has stayed intact. The order of the banks and the relative ratios of loans remained fixed. When one bank's share increases or shrinks, the other main banks shares shift in parallel with the change.

Another interesting fact to note is the changing shares of IBJ compared to the other three commercial banks. First of all, IBJ's continuous and substantial participation in the 'short-term' financing is rather unusual when we consider that IBJ was reoriented as a special bank specializing in long-term industrial financing (chōki kōgyō kin'yū) in 1952. This fact indicates that IBJ attends to its role as the managing bank of the syndicate. The managing bank's primary goal is to gather commercial banks to join the syndicate. According to a IBJ manager, IBJ gathers (atsumeru) syndicate member banks at liberty, often reflecting the opinions of the borrowing firm.  

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21 Even though long-term credit banks are allowed to provide "working capital" within the ceiling of the borrow firm's deposit with the long-term credit bank, the working capital is basically auxiliary and ad hoc.

22 Interview, Joint General Manager, Corporate Banking Department Industrial Bank of Japan, Tokyo, 27 August 1992.
Even after IBJ became a long-term credit bank, its traditional role as the managing bank for industrial loan syndicates did not change. When the pooled fund is short of the amount needed by Hitachi, IBJ looks for additional syndicate members, mostly from local banks and even credit unions. In making up for the fund shortages, IBJ ends up having an irregular share of the loan compared to Hitachi's other three main banks. IBJ's participation was not consistent until 1970. From 1970, however, the bank participated in the loan syndicate. As I shall discuss later, IBJ resumed the role as the managing bank of the loan syndicate.

The three banks' cooperation for Hitachi may appear to be dramatic, but it does not deviate from a widespread practice of commercial banks' cooperative financing for industrial corporations. The important characteristics such as the stable and quasi-permanent nature of the syndicate formed by rival banks, the existence and roles of the managing bank, and the importance of keiretsu main banks are all present in other loan syndicates.

One may wonder whether the loan syndicate for Hitachi, Ltd. in the post-war period is rather unique in view of the fact that the firm is a large-scale manufacturing corporation. This kind of doubt can be effectively clarified if we examine loan syndicates for non-manufacturing, non-banking corporations. The

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Footnote: Interview, Joint General Manager, Corporate Banking Department, Industrial Bank of Japan, Tokyo, 27 August 1992.
general trading companies (GTCs; sōgō shōsha) are a good case in point. Take Mitsui & Co., the oldest and one of the largest GTCs, for instance. Mitsui & Co. today has three de facto main banks of Sakura Bank, Fuji Bank, and Bank of Tokyo. While the three main banks for Hitachi do not have any pre-determined order of magnitude of shares, Mitsui & Co.'s three main banks are determined to be Mitsui (Sakura) Bank, Fuji Bank, and Bank of Tokyo in order of the size of their shares. As suggested in Figure 5-2, the amounts of loans offered by the three banks fluctuate over time; nevertheless, the order of magnitude has never changed. Let's examine the compositions of loans at two points in time; the year 1972 when the gaps between the banks' shares were smallest, and 1992 when these gaps were largest. In 1972, Mitsui & Co. received short-term loans from major city banks as follows:

<table>
<thead>
<tr>
<th>Bank</th>
<th>Loans (million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitsui Bank</td>
<td>42,158</td>
</tr>
<tr>
<td>Fuji Bank</td>
<td>39,384</td>
</tr>
<tr>
<td>Bank of Tokyo</td>
<td>32,480</td>
</tr>
<tr>
<td>Sumitomo Bank</td>
<td>17,785</td>
</tr>
<tr>
<td>Mitsubishi Bank</td>
<td>10,386</td>
</tr>
<tr>
<td>Daiwa Bank</td>
<td>9,882</td>
</tr>
</tbody>
</table>

In 1992, then, the short-term loans were:

<table>
<thead>
<tr>
<th>Bank</th>
<th>Loans (million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiyō-Kōbe-Mitsui Bank</td>
<td>138,460</td>
</tr>
<tr>
<td>Fuji Bank</td>
<td>116,032</td>
</tr>
<tr>
<td>Bank of Tokyo</td>
<td>60,769</td>
</tr>
<tr>
<td>Sumitomo Bank</td>
<td>58,178</td>
</tr>
</tbody>
</table>

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*Sakura Bank has its current name since April, 1990 when Mitsui Bank merged Taiyo Kobe Bank. In April, this year, then, Tokyo Bank was merged with Mitsubishi Bank to form Tokyo Mitsubishi Bank.*
Figure 5-2(a): Short-term Loans by Three Mitsui & Co.'s Main Banks

(million yen)

Figure 5-2(b): Three Main Banks' Shares-Cumulative
During the period in which actual loan amount data were not reported for Mitsui & Co., the order among the three banks did not change. Mitsui & Co. came to have its present name in 1959. The Mitsui Trading Co. (Mitsui Bussan Kaisha), the oldest trader in Japan and a key company of Mitsui Zaibatsu, was dissolved into more than 170 small trading companies in 1947 according to the SCAP government's policy to democratize the Japanese economy. Then, twelve years later, these companies re-united in a newfound trend toward large-scale mergers began in corporate Japan. From 1959 to 1966, during which specific loan amounts were not reported in major business statistics, the order of the main lenders for Mitsui (that is, Mitsui - Fuji - Bank of Tokyo) never changed.

Why do the above three commercial banks participate in cooperative lending? Given the industrial rating and status (kakutsu) of Hitachi, Ltd. and Mitsui & Co., lending to these firms may mean valuable opportunities for commercial banks. Of course, the shares that remain stable or the order of magnitude of the loans that hardly changes are not solely determined by the banks. The borrowing firms -- or the managing bank as will be discussed later -- may have greater influence on the stability of the composition of the shares. But banks as private enterprises also have choices and means of influence, such as, what Hirschman called, exit, voice, and loyalty. Banks may wish to maintain

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Hirschman, 1970.
transactions with leading firms such as Hitachi, Ltd. or Mitsui & Co., but do such relationships have to be long-term, without any interruption (i.e., exit), and be based on the framework (if informal) agreements between the borrower and lending banks?

Without a doubt, Japanese banks as private business organizations pursue their own interests. Loan syndication does have functions that conform to economic incentives. But the puzzling question still remains. If loan syndication is such a great economic institution, why is it virtually unheard of in other capitalist economies while it is widespread and quasi-permanent in Japan? If cooperative financing is not a widely accepted practice in other economies, what conditions make Japanese banks act together in giving loans to industrial corporations? In the first place, when did these banks enter the loan syndicates for Hitachi or Mitsui & Co.? Did they form the syndicates banks in order to reduce the risk expected from loaning to Hitachi or Mitsui & Co.?

The origin of the Hitachi loan syndicate, like other cases, is traced back to the pre-war period. The pre-war loan syndicate for Hitachi consisted of Dai-ichi Bank, Yasuda Bank, and IBJ as the center point. Dai-ichi Bank and Yasuda Bank (now Fuji Bank) were members of the loan syndicate for Hitachi as early as in the 1920s. Among these, Dai-ichi was the original main bank. The long-term relationship between Hitachi and Dai-ichi Bank\(^2\) was

\(^2\)Dai-ichi Bank was originally established as the First National Bank (Dai-ichi Kokuritsu Ginkō) by Shibusawa Eiichi in 1873. The Bank then became a commercial bank, as Dai-ichi Bank, in
initially structured by Hitachi’s founder, Odaira Namihei (1874-1951), in the 1920s as he had many friends in the bank at that time.\textsuperscript{27} The status quo of the order of shares in the loans is hardly arguable because Hitachi’s choices depended less on ease of payoff or interest rates than on its traditional philosophy that "the work will be given on a first come, first serve basis" (hayai mono no katchi).\textsuperscript{28} Even though there is the managing bank for loan syndication, the borrower may sometimes be in the position to make syndication member banks remain in the syndicate. In the case of Hitachi, the firm’s finance department of course had the right to choose whether to borrow funds from a specific bank on specific terms or not. But, in reality, there has been no single case in which Hitachi decided to ‘fire’ a bank.

In explaining the logic and the loan syndicate for Hitachi, it is essential to discuss the role of the managing bank of the syndicate, the Industrial Bank of Japan. The IBJ has been working as the manager of the syndicate for years. The close relationship between IBJ and Hitachi began because Hitachi

\begin{footnote}
1896. Dai-ichi Bank was then merged with Mitsui Bank in 1943, to be separated in 1948.
\end{footnote}

\begin{footnote}
\textsuperscript{27}Hitachi’s Finance Manager mentioned this to me, but he was not sure which individual were Odaira Namihei’s supporters in Dai-ichi Bank. According to a Sanwa Manager, the person was Shibusawa Eiichi himself, the founder of Dai-ichi Bank.
\end{footnote}

\begin{footnote}
\textsuperscript{28}Interview, Deputy General Manager, Sanwa Bank, 11 August 1992.
\end{footnote}
belonged to the Nissan industrial Konzern. The close relationship between the Nissan Konzern and IBJ began from the time of the existence of Kuhara Mining Co., the predecessor of Nippon Mining, which was the nucleus of Nissan Konzern. By the year 1937, when Nissan Konzern was renamed Manchuria Heavy Industries Development, Co. (Manshū Jūkōgyō Kaihatsu or Mantetsu), it had built an industrial empire consisting of 18 large corporations including Hitachi. Mantetsu Group had received two initial major syndicated loans as follows:

- **September, 1936**: ten banks
- **October, 1941**: twelve banks

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29In the early 1930s, many leading industrial corporations strove to fight economic depression by forming Konzern. Unlike the traditional zaibatsu, Konzern (or shinkō zaibatsu meaning newly rising zaibatsu) consisted only of manufacturing firms with no bank at the center. Another important characteristic of Konzern was that they were closely linked with the Manchurian operations of the Imperial Army.

30As Kuhara Mining Co. fell, Ayukawa stepped in to save the firm. In order to attract funding, Ayukawa conceived of an "open Konzern" and renamed Kuhara Mining as Nippon Sangyō. He then separated the mining business from Nippon Sangyō and named it Nippon Mining, keeping the remainder as the holding company.

31The Nissan Konzern consisted of:

- Nippon Sangyō (holding company)
- Nippon Mining
- **Hitachi, Ltd.**
- Hitachi Electric (Denryoku)
- Nissan Motor
- Nippon Oil and Fat (Yūshi)
- Nippon Fishery (Suisan)
- Nihon Victor
- Nihon Columbia (Koromubia)
- Nissan Agriculture and Forestry (Norin)
- Nissan Steamships (Kisen).
four trust banks.\textsuperscript{12}

Overall, Nissan Konzern's priority in IBJ's loans was second only to Nakajima Aircraft group.

The status of the IBJ and the membership of Dai-ichi Bank and Yasuda Bank (now Fuji Bank) as the key members of the cooperative syndicate for Hitachi was consolidated in 1939 when the bond underwriting syndicate for Hitachi was established. The bond-underwriting syndicate for Hitachi was formed in April, 1939 by three banks: IBJ, Dai-ichi Bank, and Mitsui Bank. The bond-underwriting syndicates were created according to the Temporary Fund Regulation Law (TFRL; \textit{Rinji Shikin Chōsei Hō}), a law established in September, 1937 against the general background of war preparation.\textsuperscript{13} Under the new TFRL regime, Hitachi came to have more banks in its syndicate (which will be discussed later; see Table 5-1).

A few points ought to be noted about the formation of the syndicate. The syndicate started with three banks, and in 1941 more banks, including Yasuda Bank (Fuji Bank today) and Sanwa


\textsuperscript{13}On July 7, 1937 a conflict between Japanese and Ch'ing Dynasty soldiers in Manchuria led to a full-scale war. Even before this incident, important measures for industrial promotion were in place. On May 29, the Ministry of Army (Rikugunshō) announced its "Outline on the Five-Year Plan for Important Industries" (jūyō sangyō gokanen keikaku yōkō). In the next month, the Konoe cabinet announced the "Production Capacities Expansion Plan" (seisanryoku kakujū keikaku; PCEP hereafter). The central idea was that the Japanese economy ought be able to provide all of the necessary materials in case of emergency, and its production capacity ought be expanded to meet these requirements.
Table 5-1
Bond-Underwriting Members for Hitachi, Ltd.

<table>
<thead>
<tr>
<th>Underwriting Round</th>
<th>Syndicate Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>April, 1939</td>
<td>IBJ</td>
</tr>
<tr>
<td></td>
<td>Dai-Ichi Bank</td>
</tr>
<tr>
<td></td>
<td>Mitsui Bank</td>
</tr>
<tr>
<td>(3 banks)</td>
<td></td>
</tr>
<tr>
<td>March, 1941</td>
<td>IBJ</td>
</tr>
<tr>
<td></td>
<td>Dai-Ichi Bank</td>
</tr>
<tr>
<td></td>
<td>Mitsui Bank</td>
</tr>
<tr>
<td>(8 banks;</td>
<td>Mitsubishi Bank</td>
</tr>
<tr>
<td>5 trust banks)</td>
<td>Yasuda Bank</td>
</tr>
<tr>
<td></td>
<td>Dai-Hyaku Bank</td>
</tr>
<tr>
<td></td>
<td>Sumitomo Bank</td>
</tr>
<tr>
<td></td>
<td>Sanwa Bank</td>
</tr>
<tr>
<td></td>
<td>Mitsui Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Mitsubishi Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Yasuda Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Sumitomo Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Dai-Ichi Trust Bank</td>
</tr>
<tr>
<td>February, 1942</td>
<td>IBJ</td>
</tr>
<tr>
<td></td>
<td>Dai-Ichi Bank</td>
</tr>
<tr>
<td></td>
<td>Mitsui Bank</td>
</tr>
<tr>
<td>(11 banks;</td>
<td>Mitsubishi Bank</td>
</tr>
<tr>
<td>6 trust banks)</td>
<td>Yasuda Bank</td>
</tr>
<tr>
<td></td>
<td>Dai-Hyaku Bank</td>
</tr>
<tr>
<td></td>
<td>Sumitomo Bank</td>
</tr>
<tr>
<td></td>
<td>Sanwa Bank</td>
</tr>
<tr>
<td></td>
<td>Mitsui Trust Bank</td>
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<tr>
<td></td>
<td>Mitsubishi Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Yasuda Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Sumitomo Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Dai-Ichi Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Nomura Bank</td>
</tr>
<tr>
<td></td>
<td>Tokai Bank</td>
</tr>
<tr>
<td></td>
<td>Kobe Bank</td>
</tr>
<tr>
<td></td>
<td>Sanwa Trust Bank</td>
</tr>
</tbody>
</table>


bold = postwar loan syndicate members
Bank, joined the syndicate. This fact indicates that the entries of three major commercial banks into the syndicate were not simultaneous and were more specific to the situation. This situation-specific nature of the entry decision is supported by the fact that the participation of Mitsui Bank in the Hitachi syndicate could be explained by the personal relationship between Hitachi’s president Odaira Namihei and Shibusawa Eiichi who had great influence on the Mitsui zaibatsu.¹⁴

The background behind the arrival of Sanwa Bank as the formal "main bank" of Hitachi in the post-war period weakens the logic of the interest maximization hypothesis further. Sanwa Bank became the formal "main bank" for the Hitachi group in the post-war period. Sanwa’s full-fledged involvement with the financing for the Hitachi group firms -- not merely Hitachi -- in the post-war period began in the late 1950s. At that time, Sanwa Bank decided to expand its business to the Tokyo area, thereby expanding from its home base, Osaka. In achieving this, Sanwa Bank was in need of a leading manufacturing firm that could make its client list look impressive. The Bank subsequently learned that Hitachi and its subsidiaries were having difficulty in financing projects. Sanwa Bank could, thus, easily take the position of a major fund provider for Hitachi.¹⁵ Another important contributing factor that facilitated Sanwa Bank’s

¹⁴Interview, Manager, Finance Department, Hitachi, Ltd., Tokyo, 7 August 1992.

¹⁵Interview, Deputy General Manager, Sanwa Bank, Tokyo, 11 August 1992.
settlement as the main bank for Hitachi was that Dai-ichi Bank, the traditional main bank for Hitachi, had a serious fund shortage at that time. Under this circumstance, Dai-ichi Bank asked Sanwa Bank to help "shoulder its burden" (kamba shite kure).  

The loan syndicate for Mitsui & Co. has a different history from Hitachi's. The role of the Mitsui Bank does not require much explanation as it is the main bank of the entire Mitsui keiretsu that includes Mitsui & Co. Fuji Bank's participation in the Mitsui syndicate (and later becoming its main bank) was due to the bank's transaction relationship with Dai-ichi Trading Co. (Dai-ichi Bussan). Dai-ichi Trading Co. had been maintaining a positive banking relationship with Yasuda Bank (the predecessor of Fuji Bank) from the pre-war period.  

Dai-ichi Trading Co., which had been closely associated with Mitsui Trading Co., was merged into Mitsui & Co. in 1959. Fuji Bank has been the main bank for Dai-ichi Trading Co., so it was almost natural for it to continue banking transactions with Mitsui & Co.  

The background history of how Fuji Bank became the main bank "on par with" (narande) Mitsui Bank reveals more about the logic of the relationships between these banking and industrial corporations. The most important reason for this situation lay  

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16 Interview, Deputy General Manager, Sanwa Bank, Tokyo, 11 August 1992.

17 Yasuda Bank changed its name to Fuji Bank in 1948.
in a person named Iwasa Yoshizane. Iwasa, a managing director (jōmu) in charge of corporate lending and foreign exchanges at Fuji Bank, was a key figure in engineering the great merger of more than 170 firms into Mitsui & Co. 1959. His role came from the fact that Fuji Bank had been the main bank for Dai-ichi Trading Co. and Dai-ichi Trade and Commerce (Dai-ichi Tsūshō), the two largest companies among all companies to be merged into Mitsui & Co.\textsuperscript{38} The economic reasons such as risk sharing had little to do with the participation of Fuji Bank as the main bank. At that time, Mitsui Bank, the original main bank for Mitsui & Co., was in a weak position as it had gone through difficult transformations during the war years. During the Pacific War, Mitsui Bank was merged with Dai-ichi Bank to form Imperial Bank (Teikoku Ginkō), which was split back into Mitsui and Dai-ichi Banks in the immediate post-war period.\textsuperscript{39} Another large bank and the traditional ally for Mitsui & Co., Yokohama Specie Bank, was also dissolved and re-reorganized into Bank of Tokyo under the rule of SCAP.\textsuperscript{40}

As Sanwa Bank had found the lending transactions with Hitachi, Ltd. a golden opportunity to expand its business scope to include premier manufacturing firms in the Kantō area, Fuji

\textsuperscript{38}Mitsui Bussan Kabushiki Kaisha, 1977, p. 77.

\textsuperscript{39}Dai-ichi Bank was later merged with Kangyo Bank to form Dai-ichi Kangyo Bank.

\textsuperscript{40}Yokohama Specie Bank was a special bank specializing in foreign exchange and reserve affairs and management of financial transactions with Imperial Japan’s key colonies, that is, Korea and Taiwan.
Bank also found the working relationship with Mitsui & Co. a valuable opportunity. Yet Fuji Bank's goal to take a leading role for Mitsui & Co. was accomplished by a handful of managers (especially Iwasa Yoshizane of Fuji Bank and Nizeki and Misukami of Dai-ichi Trading Co.) rather than the entire boards of directors. Iwasa, who happened to be the top decision maker with regard to corporate banking at the time of the merger of Mitsui & Co., was an expert on foreign exchange business. For this professional background, Iwasa was closely connected with top managers of trading companies, particularly those of Dai-ichi Trading Co., for which Yasuda Bank had been the traditional main bank.

Iwasa was fully convinced at that time that supporting trading companies was in Fuji Bank's best interest, if not its shareholders', in term of social reputation as well as profit making. Iwasa was disappointed by the fact that Fuji Bank had only Takashimaya-Iida on its client list in the area of general trading companies. As such, Fuji Bank (more accurately, Iwasa) decided that it would "support and nurture trading companies" (ginkō toshite wa boeki kaisha wo ōeru, ikusei shite iku)." Iwasa's loyalty was of course directed to the development of Fuji Bank. Nevertheless, Iwasa's convictions and decisions were not a purely corporate affair. They rather reflected the norm of the time. At that time, there was a strong consciousness and consensus that general trading firms and city banks ought to work

for the goal of "national building through trading" (bōeki rikkoku). For instance, the decision that Fuji Bank would become a main bank for Mitsui & Co. was made at an informal meeting called "trading meeting" (bōekikai) among top managers of Fuji Bank (e.g., Iwasa), Dai-ich Trading Co. (e.g., Nizeki and Misukami), and Dai-ichi Trade and Commerce (e.g., Okamoto). The ideology of bōeki rikkoku also explains why Fuji Bank picked up another large general trading company, Marubeni, to "nurture" (ikusei) in cooperation with other city banks.

Then, why do these banks remain loyal to the extent that their departures from the existing cooperative financing arrangements for large corporations are hardly ever heard of? Is this loyalty a function of economic calculation? We can explain this long-standing and stable relationships from the perspectives of both the borrower and the lender.

From the borrowing firm's perspective, the logic is rather simple. Having plural commercial banks as supporters is clearly a better strategy than relying on only one of two banks. According to an IBJ manager, the members of syndication hardly change even if their contributing shares do change. Japanese firms in general make it a rule not to depend on a single bank.

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42 Ibid., pp. 82-84.
43 Ibid., p. 87.
44 Interview, Joint General Manager, Corporate Banking Department, Industrial Bank of Japan, Tokyo, 9 September 1992.
for loans even though that bank may have excellent lending power and the best lending terms."

When multiple banks are in competition for larger lending opportunities, the borrowing firms would be able to divide and distribute this opportunity among many. In reality, however, the distribution of opportunity is rather elaborate. There could be a rough framework of sharing determined by the borrowing firm and the lenders as in the case of Hitachi, Ltd. (with the assistance of the managing bank of the syndicate) or an order of magnitude of loans as in the case of Mitsui & Co. In this context, the price of borrowing money does not affect much. The usual pricing formula is that the member banks in the syndicate and the borrowing firm would agree to, if informally and implicitly, that the interest rate would be a fixed "spread" (e.g., 0.25% or 0.5%) over the inter-bank rate." In Hitachi's case, the Industrial Bank of Japan (IBJ) has long been the managing bank. The interest rate for syndicated loan for Hitachi "is negotiated [between Hitachi and member banks]" because Hitachi and the banks share "the philosophy of one price for one commodity" (ippatsu

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"Interview, Manager, Finance Department, Hitachi, Ltd., Tokyo, 10 August 1992; interview, Assistant General Manager, Mitsui & Co., Tokyo, 4 November 1994.

"Interview, Joint General Manager, Corporate Banking Department, Industrial Bank of Japan, Tokyo, August 27 1992. Of course, banks will charge higher spread rates for industrial corporations of lower rating or smaller size. But these firms are not within the purview of this study.
"Ikka tetsugaku". This "one commodity, one price" notion is confirmed by IBJ, the managing bank. According to the manager-in-charge at IBJ, the interest rate will be the same for all syndicate members whether they are commercial banks or trust banks.

More importantly, however, the borrowing corporations would hardly ever sever the transactions with their ally banks because it is a matter of *giri* (a sense of obligation). For instance, Mitsui & Co. has been maintaining stable relationships with Fuji Bank and the Bank of Tokyo while ignoring economic calculations. That is, even if the incentives to have bank loans are rapidly shrinking owing to a new debt instrument called commercial paper (CP) (which accounts for the overall shrinkage of three banks' loans illustrated in Figure 5-2), Mitsui & Co. continues to take out loans from these banks, mostly out of *giri*.

The reasons for stable and long-term financial transactions from the lender's perspective can be best interpreted from the vantage point of the bankers in charge of specific accounts. The simplest and most powerful explanation can be found in the fact that the banking managers who deal with specific accounts see no reason to consider changes in existing transactions. As the Bank

47 Interview, Deputy General Manager, Sanwa Bank, Tokyo, 11 August 1992.

48 Interview, Joint General Manager, Corporate Banking Department, Industrial Bank of Japan, Tokyo, 27 August 1992.

49 Telephone interview, Senior Finance Manager, Mitsui & Co. on 10 April 1996.
of Tokyo's manager in charge of the Mitsui & Co. notes, he had no "reason or motivation to take a new look at the account when [he] was posted to the job at first." This observation is shared by all banking managers interviewed during the course of this study. For a single manager or a group of them, there is no basis to consider breaking or changing the tradition that existed already before they come to their posts. More important than this negative reason is the consciousness of, and commitment to, a kind of mandate (shimeikan) that banks ought to "nurture" (ikusei) and "grow together with" (tomoni sotatsu) industrial corporations. A bottom line of such commitment is that their client corporations ought not to go bankrupt.

The explanations based on the interest maximization motivation are not refuted in a wholesale manner here; they are valid in their own rights in many aspects. For instance, they explain the functions of loan syndication correctly. But such a functional explanation proves to be rather weak when we consider that loan syndication is not a standard practice in other advanced economies. The notion of the risk involved with bank lending can be invalid in many cases. The absolute majority of bank loans that industrial corporations take out annually

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50 Telephone interview, Deputy General Manager, Fuji Bank, Tokyo, 10 April 1996.

51 Telephone interview, Deputy General Manager, Fuji Bank, Tokyo, 10 April 1996.

52 Interview, General Manager, Bank of Tokyo (formally, Tokyo Mitsubishi Bank), Tokyo, 19 January 1996.
consists of short-term loans with maturity of one year or less. For instance, Hitachi received a total of 166.8 billion yen in bank loans in the year 1992, of which 162.6 billion yen (97 percent) were in the form of short-term loans. Yet these short-term loans are renewed almost automatically and for extended periods with minor changes in the amounts. Because the loans are conceived as short-term arrangements, a syndicate member bank has the opportunity to withdraw from the syndicate whenever it perceives there is added risk. But there has never been a report that any large commercial bank has ever withdrawn from a lending syndicate for the reason of the perceived risk. On the contrary, when it comes to the corporations of the stature and stability of Hitachi and Mitsui & Co., what is sought after is not merely the profit to the bank, but the opportunity to lend to such leading industrial corporations. Japanese city banks may suffer from "bad loans" (furyō saiken), though such loans have not been made to premium industrial corporations, but to realtors and developers instead. If there is to be any choice or selection involved within the syndicate to loan to Hitachi, it is Hitachi and the managing bank of the syndicate (IBJ in this case) that select among volunteering banks, not the other way around.\footnote{Kaisha Nenkan, 1993, p. 1821.}

\footnote{Interview, Joint General Manager, Corporate Banking Department, Industrial Bank of Japan, Tokyo, 27 August 1992.}
Another point that economists often address concerning the long-term relationship between 'main banks' and industrial corporations is the reduction of monitoring costs. Banks monitor their debtors for safety and profit considerations. The notion of monitoring 'cost' means that such cost is factored into the overall calculation of operating costs. If the monitoring cost is too high, the bank will elect to close off such a lending transaction or to conceive of a governing mechanism to reduce the cost. It is in this context that the rationale of the 'main bank' is justified by economists. Long-term, stable transactions between a main bank and an industrial corporation will no doubt result in the accumulation of information on the performance of the industrial corporation and will eventually reduce the cost for monitoring. Thus, the main bank provides the function of "delegated monitoring" for other commercial banks that lend to the same corporation. It is owing to this governing mechanism, the argument goes, that bank keiretsu are sustained. The logic explains the relationship between a specific bank and a specific industrial corporation well. But does it apply to syndicated loans? In the case of loan syndication, the managing bank (kanji ginkō) exists. Obviously there is the effect of reducing monitoring costs for an individual bank when it joins a loan syndication, but this is not the primary motivation for joining syndication; it is rather an added result that the member banks see as a partial payoff for syndication.
What we have to identify are the conditions that make loan syndication acceptable and widespread particularly in Japan. Japanese commercial banks' insensitivity to market determinants such as interest rates and their willingness to share burden with rival banks on a long-standing basis point to the weakening of the economic determinism argument in Japanese industrial financing. Moreover, as illustrated in the Hitachi case, cooperative financing, which only is a one form of bank lending, is not mere a conduit of spot deals but is an historical institution.

II. GENERALIZING THE CASES:
FINANCIAL SYNDICATION AS AN HISTORICAL INSTITUTION

In the above brief case study of the loan syndicate for Hitachi, Ltd. and Mitsui & Co., I have intended to refute the interest maximization explanation and such economic terms as risk sharing and reduction of monitoring costs. In what follows, I shall generalize the logic found in the case studies of the Hitachi, Ltd. and Mitsui & Co. syndicates through a historical survey of financial syndication in Japan.
A. The Pre-War Period

The first financial syndicate in Japan is found to have existed before this century. In August, 1894, two weeks after the declaration of war against the Ch’ing Dynasty of China, the Japanese government announced the issuance of government bonds. As the bond was instituted to help raise the war budget, it was called the "military bond" (gunji kōsai). The government named the first (Dai-Ichi), the third (Dai-San), and the fifteenth (Dai-Jugō) national banks as managing banks for the subscription of military bonds. For "digestion" (shōka, that is, placement) of military bonds by individuals and households, however, the government was compelled to call on representatives of leading commercial banks and ask for their cooperation.\(^5^5\) This pattern of cooperation between the government and banks continued through the public subscription of government bonds for the Russo-Japanese War in 1904. As illustrated in a bank’s history book:

"On January 28, 1904, Prime Minister called representatives of major banks in Tokyo, Osaka, Kyoto, Nagoya and Yokohama to his residence and discussed public subscription of government bonds. Expecting that the Russo-Japanese War would require much larger war expenditure than the Sino-Japanese War ... government judged public digestion of bonds would be impossible if not for cooperation of commercial banks.\(^5^6\)

The formula developed for military bonds was, by now, applied to the underwriting and placement of corporate bonds.


\(^5^6\)Ibid.
The first case reported was the underwriting syndicate formed by Yasuda and Dai-San Banks for the bonds to support Kawasaki Shipbuilding in 1902. The case was then followed by several syndicates such as:

- **Osaka Shipping** (1903)
  - IBJ
  - Mitsui
  - Mitsubishi
  - Sumitomo
  - Yamaguchi

- **Tōyō Steamship** (1906)
  - Jūgō
  - Dai-Hyaku

- **Dai Nihon Seitō** (1907)
  - Sanjū-Yon
  - Koike.

In the year 1910, imperial Japan had expanded its colonial sphere into Asia with the annexation of the Korean Peninsula, and a larger syndicate was formed to underwrite government bonds (kokusai hikiuke shinjiketo). On January 26, 1910, before issuing long-term, low-interest rate government bonds, prime minister cum finance minister Katsura Tarō (1848-1913) called the representatives of the following leading banks of Kanto and Kansai (tōzai chūyō ginkō) to his residence to discuss the matter:

- **BOJ**
- Yokohama Specie Bank
- IBJ
- Dai-ichi
- Mitsui
- Yasuda
- Dai-San
- Mitsubishi Bank
- Dai-Jūgō
- Dai-Hyaku (from the Tokyo region)
- Sanjū-Yon
- Sumitomo
- Yamaguchi
- Kōike
- Kitahama
- Rōsoku (from the Osaka region)

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At this meeting, important principles governing the behavior of syndicate members were decided. The group also formed the basic framework for later financial syndicates. The key provisions were:  

Article 1: Government bonds will be underwritten by syndicate member banks in different shares;  

Article 3: If any syndicate members are conditioned to sell bonds to non-members, the members shall be responsible to make sure that the purchasers conform to the present provisions;  

Article 4: If any syndicate members are conditioned to sell the bonds at the price lower than the one set at public subscription, the members should notify the syndicate of the situation for approval;  

Article 8: The syndicate members will notify each other every week regarding of sizes of bond sales that occurred; and  

Article 9: If any members violate these provisions, they will be expelled by the consent of more than two thirds of the syndicate members at the managing committee presided by the manager bank.  

With the above provisions, the syndicates retained control over price and quantity of the resale of government bonds, and the controlling power was designated to the managing bank (which was mostly the Industrial Bank of Japan, as I shall discuss later). The 1910 syndicate, however, did not last long. Despite tight control and the existence of the managing institution, the member banks found it difficult to stay in the syndicate as the market fluctuated while the terms of resale stayed rigid. More importantly, however, there was a political decision to spread  

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government bonds throughout the market. The primary goal of this decision was to help mobilize funds for the government centrally and in a massive scale and at the same time to provide funds to manufacturing firms more easily.

A critical turning point for the development of cooperative financing was offered by the lifting of the embargo on gold exports in 1930. With that measure, the Japanese government asked that "banks induce rationalization of firms." In reply to this request, the banks pledged (1) that they shall support rationalization of firm by forming alliances between banks and (2) that banks shall refrain from competition in order to help the firms under dissolution. This pledge was made as the outcome of consultations between government and bank syndicates. On June 28, 1930, the BOJ called for a consultation meeting (kondankai) with the bank syndicate in order to solicit cooperation of banks in liquidating and rationalizing industrial firms that showed poor performance. Replying to the initiative of the MOF and the BOJ, commercial banks slated two institutions. One was the "loan alliance" (yūshi renmei), and the other was the Industrial Investigation Association (sangyō chōsa kyōkai). The latter was created for the purpose of implementing the collective investigation of the industrial corporations and their loan applications by the member banks of loan syndicates. At the time of its opening in October, 1930, the Association had listed 29 members including commercial banks, trust banks, and insurance companies.
Regarding cooperative financing, the more important institution built by the bank syndicates was the loan alliance (yūshi renmei). A Bank of Japan publication records its performance as an important success:

As early as in the latter half of 1930, yūshi renmei had achieved remarkable success (sōtōna seika) in improving financial states of enterprise corporations (jigyō kaisha) ... through forming loan syndicates with commercial and trust banks. In offering syndicated loans, banks had evaded from their previous tendencies of emphasizing profits but instead begun to involve in management affairs such as conditional appointment of directors, approval of business plans, and limitation of dividend rates. These new roles for banks were not peculiar to the loan alliance but were becoming applicable to other financial institutions. Thus it must be viewed that, after the lifting of the gold embargo, the relationship between banks and the corporations engaged in industrial projects became very close.\(^6^0\)

It was also noted at this time that the cooperative mood (kōchoteki kiun) among banks came to be visible and institutionalized. In a Bank of Japan publication, the new tendency was noted as an important characteristic of the time:

In coping with financial uncertainties of the industrial community, the tendency of banks to be cooperative with each other became manifest (ichijirushiku). This was a major characteristic of the time (tōjino ōkina tokuchō). The consultation meetings of syndicate banks, with BOJ in the center, were held for four times in the latter half of 1930. Cooperation among commercial banks was emulated by trust banks and insurance companies. As such, in November, 1930, the consultation body came to be expanded to include commercial banks, trust banks, and insurance companies -- now with a new name of Itsukakai [literally meaning an organization which meets every five days].\(^6^1\)

\(^{60}\)Cited in Takahashi, 1955, p. 1112.

\(^{61}\)Ibid., pp. 1113-3.
The year 1937 was a great turning point in the history of industrial financing in Japan. With the proclamation of the Temporary Fund Regulation Law (see Chapter 4), the Japanese government became fully committed to using financial mechanisms for the ultimate goal of realizing the "national defense state" (kokubō kokka). On October 15, 1937, it was decided that the government bond underwriting syndicate would underwrite 100 million yen to help the government make up for the deficit created by the Sino-Japanese War.

A full-scale war had brought about a huge dearth of credits at the national level, and consequently, the government and private sectors were competing for funds amid war. The Japanese finance authority felt the need to control the issuance and placement of corporate bonds. The Japanese government passed the Temporary Fund Regulation Law in order to mobilize funds for government capital through bond issuance, investments in manufacturing firms, and the management of newly acquired colonies. A BOJ history book records that:

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62 The establishment of the 'national defense state' through PCEP demanded loyal services and the mobilization from diverse corners of the society including the "national spirit." For instance, on September 9, the "Cabinet Instruction and Notice on the National Spiritual Mobilization" (kokumin seishin sōdōin).

63 The control of issuance and placement of corporate bonds initiated by TFRL was elaborated upon and completed by a series of ensuing financial control measures, of which the final one was the formation of the Securities Control Council (shōken tōseikai) in June, 1945. TFRL, a fascist financial control law that denied the distinction between public and private businesses, continued until 7 April 1948.
Since 1936, a war (sōdatsusen) has been going on between the state (kokka) and the civilian sector (minkan) surrounding one single pool of funds. In the current state that funds get flooded into the civilian sector and so the Bank of Japan has to print more currency, inflation will take place. On the other hand, however, if the government continues to focus on maintaining the economic order (keizai jitsujō) and enforce the preferential treatment of government bond issuance to support war, industrial financing will be choked which will weaken manufacturing firms working on the production capacity expansion plan. Furthermore, choked industrial financing will push up interests, which will in turn bring down the prices of massive securities owned by commercial financial institutions. Therefore, the financial authority has no choice but to control the flow of industrial financing so that funds are not channelled to the industries which are not crucial. This requires the shift of financial control from the traditional indirect way to the direct one. The Temporary Fund Regulation Law was made for this financial policy objective.\(^6^4\)

An important practice that was promoted in implementing TFRL was the enforcement of bond underwriting syndicates. The now famous 16-bank syndicate members were invited on August 12, 1937 to discuss the matters related to the underwriting and placement of the "North-China Incident Bonds" (Hokushi Jihen Kōsai).\(^6^5\) The underwriting of bonds issued by special (i.e. munitions) corporations and those related to the projects in Manchuria received special treatment under the aegis of IBJ. For these two categories of bonds, the following banks were selected, from which underwriting syndicates would be formed:\(^6^6\)


\(^6^5\)It was thus decided that the underwritten bonds would be repurchased by BOJ or Deposit Division 9 (yōkinbu) of MOF. This new collective arrangement was not a purely financial affair. It was only a supporting mechanism of the "management of the credit organization by the state" (shin'yō kikō no kokka kanri), of which the grand goal was PCEP.

The management of industrial funding by the state was grounded on two key purposes: (a) managing interest rates and (b) maintaining the prices of securities and credits. But, one of the most important impacts of TFRL was that the cooperative financing formula was settled into the area of corporate financing as well. Until that time, cooperative financing was used for underwriting government bonds. The industrial bond issuing market was thus frozen with the upcoming war. To fight this situation, the Japanese government conceived of a cooperative financing method using bonds and stocks. According to this method, a syndicate of banks would make a loan to a corporation against its securities to be issued as a mortgage in advance (maekashi). At that time, the measure was meant to be

68The working formula was as follows: First, several banks would pool funds as a long-term loan for the assigned manufacturing firm. Then the manufacturing firm would issue bonds for the loan amount, which would be underwritten by the syndicate of the lending
a temporary policy means for strategic corporations and the corporations that did not have either the time or the capacity to issue bonds for underwriting and placement. These *maekashi* loans were handled by the syndicates of large banks, which were mostly managed by IBJ. For instance, as early as in September, 1937, IBJ instituted cooperative financing for Manchurian Heavy Industries Development, Co. (MHIDC) in the amount of 24 million yen. Of this amount, IBJ provided half, while the remainder was evenly distributed to the syndicate members. This loan was made in the form of advanced subscription of MHIDC’s bonds.

This "temporary" arrangement came to be permanent. It was applied to other major funding enterprises such as cooperative financing for PCEP, and then became one general formula of industrial finance in Japan. Many of these loan/underwriting banks. The banks would then make up for the fund used for the loan from the bond sales. In short, it was advance loan secured against bonds (*shasai maekashi*).

69Major examples were South Manchuria Railway, Co., Nippon Steel, and Oriental Development Co. (for the rule of colonies).

70Manchurian Heavy Industries Development Co. (MHIDC) was formally launched with the same name on December 27, 1937. It was recreated out of Nippon Sangyo (or the Nissan Konzern), which had moved its headquarters to Changchun by that time. MHIDC was incorporated as a legal-person corporation of the state of Manchuria. MHIDC was in a sense an outcome of the conflict within the Japanese establishment regarding colonialization of Manchuria. After the victory in the Russo-Japanese War (1904-5), Japan openly started to colonize Manchuria. An important step in this direction was the establishment of the South Manchuria Railway, Co. (Mantetsu; SMR). For a detailed account of SMR and MHIDC, see, for example, Uda, 1973.


syndicates had continued to work as pure loan syndicates.\textsuperscript{71} It was at this point that the two forms of cooperative syndicates -- loan syndicates (yūshidan) and underwriting syndicates (hikiuke dan) -- had taken their regular forms.

Another crucial development in this 1937 framework was the coming of IBJ into the center stage as managing bank of many loan and underwriting syndicates. IBJ occupies a unique position in the history of industrialization in Japan. As a Japanese writer describes, "IBJ...is often called the 'sacred state bank' (tenka kokka ginkō). Its management direction, directors and bankers all carry the flavor of the pre-war state bank... IBJ is the 'finance division of the Japan, Inc.' (Nihon Kabushiki Kaisha no kin'yūbu)."\textsuperscript{74} The establishment of IBJ marked the synthesis of the drives toward industrialization at the turn of the 20th century. Following the Ch'ing-Japan Conflict (1884-5), a strong need was felt among Japanese politicians and industrialists for a central bank that could deal with financing for manufacturing firms and the introduction of foreign capital. In this spirit, IBJ was created as the "central bank for manufacturing" (kōgyō no chūo ginkō). It was then part of a grand design that divided national financing into:

- Bank of Japan: the central bank for commerce
- Nihon Kangyō Bank: the central bank for agriculture
- IBJ: the central bank for manufacturing

The Imperial Diet justified this division of national finance as

\textsuperscript{71}Okurashō, 1957, p. 134.

\textsuperscript{74}Yamamoto, 1978, pp. 2-3.
follows:

Japan has some favorable conditions to promote industries ... And to develop the industries, special financial institutions are indispensable... As the society develops, everything will require divisions of labor, and banking is no exception... Only when we have central banks for commerce, agriculture, and manufacturing respectively, we would be able to promote them appropriately.\(^5\)

The Industrial Bank of Japan took the initial responsibility for cooperative financing for the firms that would do business as a result of the invasion of Manchuria and China in 1937. Right after the outbreak of the Sino-Japanese War, IBJ got a "secret informal order" (kenbi no naimei) from MOF regarding cooperative financing for PCEP (seisanryoku kakujū yūshi).\(^6\) With this

\(^5\)Cited in Nippon Kōgyō Ginkō, 1957, p. 23 (my translation).

\(^6\)The IBJ history book writes:

This Bank (IBJ) has been very cooperatively responding to the funding needs for the expansion of production capacity since around 1935. But, with the outbreak of the War, the Bank received a secret informal order from the Ministry of Finance, in which the priorities of fund provision was specified as follows:

A. The industries that are specially in need of the fund (tokuni yūshi wo hitsuyō to suru seisangyō)

- automobile and its parts and material
- machine tool and its parts and material
- aircraft and its parts and material
- fire arms and their parts and material
- vessels and their parts and material
- power motors and their parts and material
- ammonium sulfate
- aluminum
- pulp
- engineering chemical
- paper
- engineering gold
- engineering copper
- coal
- steel

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order, IBJ came to take two kinds of initiatives. Firstly, it "shouldered" city banks' funding responsibilities (katagawari) for the firms engaged in the priority industries." Secondly, it began new loans, mostly in cooperation with city banks. Both of these practices contributed to expanded cooperative financing. For IBJ, the idea of cooperative financing was not new; it had once managed cooperative financing right after World War I. But cooperative financing to be managed by IBJ became larger in scale and involved heavy manufacturing firms.

Of course, IBJ got special treatment and privileges as a quasi-government bank. According the 1937 TFRL, IBJ's debentures were issued for extended maturity terms, with the government's guarantee. The debentures were also underwritten by local banks and other financial institutions with special government inducement and encouragement. In short, for this specific fund-mobilizing bank, which was capable of shouldering risks for the enterprises of national importance, a vast pool of funds were mobilized through a national web of financial institutions.

B. The industries to be protected with reserve funds (yūshi wo tebikae sasitsukae naki seisangyō)

- spinning
- acid coal
- sugar
- cement
- beer
- luxury goods.

"The practice officially began in 1922. On December 18, 1922, MOF ordered IBJ and Nihon Kangyo Bank to start shouldering the commercial banks' realty-secured loans."
As a war-financing institution (gunju kin'yū kikan), IBJ then performed several important functions such as:⁷⁸

. organizing and managing loan syndicates
. providing "production-capacity expansion funds"
. advance underwriting of munitions firms' bonds
. implementing "ordered financing" (meirei yūshi)
. providing funds through IBJ debentures.

IBJ had no singular, exclusive lending relationship with any industrial corporation. Its role in industrial financing was to form cooperative financing arrangements with other commercial banks. In 1937, IBJ arranged loan syndicates for 32 corporations, and for 34 corporations the following year.⁷⁹ IBJ's shares varied, but it invariably took on the role of managing bank for most important funding cases. Even before cooperative financing was institutionalized under the formal leadership of IBJ, the latter had already had cooperative financing arrangements as early as 1938. Table 5-2 lists selected examples of industrial corporations that received loans from more than 2 banks including IBJ in 1938. Between the end of the Sino-Japanese War (1937) and the start of the Pacific War (1941), a total of 314 underwriting syndicates were reported, including 56 newly organized syndicates and 41 re-organized

⁷⁸Another official war-financing institution was the Wartime Financing Depository (Senji Kinyu Kinkō). The Wartime Financing Depository specialized in financing munitions firms. The original was conceived right after the Sino-Japanese War, but it confronted opposition from the business community. Instead, the function was assumed by IBJ. With the outbreak of World War II, however, WFD was materialized in April, 1942. There is one interpretation that WFD was created by militarists and bankers who were dissatisfied with IBJ's business policies (Nippon Kōgyō Ginkō, 1957, pp. 574-5).

⁷⁹Ibid., pp. 455-6.
Table 5-2

Selected Examples of IBJ-led Loan Syndicates
(1938)

<table>
<thead>
<tr>
<th>firm banks</th>
<th># of transaction (including IBJ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Okinawa Seitō (Sugar)</td>
<td>2</td>
</tr>
<tr>
<td>Shizuoka Dentetsu (Rail)</td>
<td>3</td>
</tr>
<tr>
<td>Mantetsu (Manchurian Rail)</td>
<td>4</td>
</tr>
<tr>
<td>Manshū Denden (Manchuria TT)</td>
<td>5</td>
</tr>
<tr>
<td>Nippon Kōgyō (Mining)</td>
<td>6</td>
</tr>
<tr>
<td>Chichibu Cement</td>
<td>7</td>
</tr>
<tr>
<td>Shōwa Kōgyō (Mining)</td>
<td>8</td>
</tr>
<tr>
<td>Ri Kagaku Kōgyō (Chemical)</td>
<td>9</td>
</tr>
<tr>
<td>Kyōdō Kazai (Fire Insurance)</td>
<td>10</td>
</tr>
<tr>
<td>Manshū Jūkōgyō Kaihatsu (MHIDC)</td>
<td>11</td>
</tr>
<tr>
<td>Nippon Suisan (Fishery)</td>
<td>12</td>
</tr>
<tr>
<td>Oji Seishi (Pulp and Paper)</td>
<td>13</td>
</tr>
<tr>
<td>Nippon Yūshi (Oil and Fat)</td>
<td>14</td>
</tr>
<tr>
<td>Koike Shōkeng (Securities)</td>
<td>15</td>
</tr>
<tr>
<td>Nippon Sansō Hiryō (Fertilizer)</td>
<td>16</td>
</tr>
<tr>
<td>Nikkō Shōken (Securities)</td>
<td>17</td>
</tr>
</tbody>
</table>

A majority, but not all, of these syndicates were managed by IBJ. To classify them by the managing institution:

<table>
<thead>
<tr>
<th>managing institution</th>
<th>number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBJ</td>
<td>168 (67%)</td>
</tr>
<tr>
<td>other commercial bank</td>
<td>20 (11%)</td>
</tr>
<tr>
<td>trust bank</td>
<td>29 (17%)</td>
</tr>
<tr>
<td>other financial institution</td>
<td>9 (5%)</td>
</tr>
</tbody>
</table>

By this time, IBJ became the epicenter of industrial financing, particularly in securities-related financing that was regulated under the catchphrase of the "careful selection rule" (gensenshugi) in allowing bond issuance. Once a firm's bond issuance passed the careful section rule, the bonds would be placed by another rule called "tri-sectionalism" (sambunshugi). In short, the placement would be implemented through three channels: government financial institutions, IBJ-led underwriting syndicates, and public placement. Among these three paths of bond placement, the IBJ-led underwriting syndicates were dominant.

Another important practice developed at this juncture was "ordered financing" (meirei yūshi), a new form of cooperative financing through corporate stocks and bonds. For this purpose, Cooperative Securities Co. of Japan (Nihon Kyōdō shōken Kabushiki Kaisha) was established with the mission of maintaining

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81 Nakajima, 1977, p. 100.
securities prices. Under the leadership of IBJ, the Corporation purchased securities and the funds collected through sales were supplied to industrial corporations as ordered by IBJ. Ordered financing was created with the promulgation of National Mobilization Law (NML). In the fall of 1938, there was a conflict between the military and the industrial community concerning how to implement the Article 11 of NML, particularly ordered financing. The negotiated outcomes were as follows:

(1) Ordered financing will be performed by IBJ, not ordinary commercial banks; (2) Losses of ordered financing will be made up for by government; (3) As IBJ will have a new department in charge of ordered financing, no new war-financing corporation will be created. For the purpose of ordered financing, IBJ will increase its paid up capital.

With the creation of the Temporary Fund Accommodation Department (Rinji Shikin Yūzū Bu) in 1938, the first ordered financing was made to Nakajima Aircraft in the amount of 60 million yen.

---

Another development of this period was the standardization of interest rates. In order for BōJ to make loans to commercial banks against their purchases of government bonds as mortgage, the saving interest rates ought to be standardized between city banks, regional commercial banks, and credit unions. Interest rate differentials between different types of financial institutions and between regions had to be narrowed, particularly with a view to protect large ‘city banks’ that maintained lower deposit rates relative to local banks and other financial institutions. This "standardizing" (heijunka) of interest rates is reported to have been virtually completed right before the Pacific War. On December 6, 1938, the decision was made regarding the deposit interest rates for 6 major city banks. According to the new decision, interest rates for time deposits would be between 5.5% and 6%. The decision also included clauses on the punishment for the banks that broke the decision (Nihon Ginkō, p. 104). Following suit, 4 major savings bank -- Tokyo Chōchiku, Tokyo Chōjō, Kawasaki Chōchiku, and Yasuda Chōchiku -- agreed to maintain mutually negotiated savings interest rates (Ibid., p. 134).

Between 1939 and 1941, a total of 1.15 billion yen of ordered financing was made, a majority of which was devoted to the building of aircraft, automobiles, and other munitions industries as follows:  

<table>
<thead>
<tr>
<th>Company</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nakajima Aircraft</td>
<td>565 million</td>
</tr>
<tr>
<td>Tōkyō Automobile</td>
<td>52 million</td>
</tr>
<tr>
<td>Nippon Sōda</td>
<td>50 million</td>
</tr>
<tr>
<td>Nippon Kōgaku (Nikon)</td>
<td>49 million</td>
</tr>
<tr>
<td>Kawanishi Aircraft</td>
<td>48 million</td>
</tr>
<tr>
<td>Ōkura mining</td>
<td>40 million</td>
</tr>
<tr>
<td>Riken Chemical</td>
<td>25 million</td>
</tr>
<tr>
<td>Aichi Watch (Aircraft)</td>
<td>19 million</td>
</tr>
<tr>
<td>Nitichichu Fuel</td>
<td>18 million</td>
</tr>
<tr>
<td>Shōwa Aircraft</td>
<td>15 million</td>
</tr>
</tbody>
</table>

In 1939, cooperative financing rapidly grew in size and magnitude for several reasons. According to a Ministry of Finance record:

A basic reason for such expansion (of cooperative financing) was rapidly growing demands for industrial funds due to the creation of public corporations, the growth of private corporations in size, and the need to remedy sacrificing (due to war munitions) industries. These fund demands could not be satisfied by any single bank, and the risk ought to have been diffused. There was also a rising spirit of cooperation in the financial industry as the national situation changed. But a more practical reason was that commercial banks became very reluctant to provide loans to manufacturing firms.

This contradictory statement shows that banks were still

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85 Munitions financing for Mitsubishi Heavy Ind., the primary competitor of Nakajima Aircraft, was provided through Mitsubishi Bank.
86 Currently, Hino Automobile which was the prime supplier of trucks.
87 Okurashō, 1957, p. 130.
reluctant to switch their businesses to "enterprise financing" (jigyō kin’yū). The policy tool that the Japanese government used to fight this reluctance was cooperative financing (kyōdō yūshi), now an official policy. The Japanese government's justification of this mechanism consisted of (a) pooling funds of large scales, (b) diffusion of risk, and (c) getting rid of the evil effects of free competition. As banks had to rely on households' demand deposits, a fund supply of the short-term nature, they found it difficult to respond to manufacturing firms' requests for long-term loans. Cooperative financing was a method to give leeway to banks while satisfying the needs of manufacturing firms.

As the goal of expanding production capacity for the "national defense state" became more crucial, "the cooperative financing method was to leap forward." Ogura Masatsune, the then Minister of Finance, gave a speech to the bankers in April, 1941. In his speech, he suggested that the method of indirect finance be strengthened to facilitate long-term facility investments. The "Outline of the Basic Fiscal and Financial Scheme" (Zaisei Kin’yū Kihon Hōsaku Yōkō; the Financial Outline hereafter), passed by the cabinet on July 26, 1941, was the embodiment of negotiated decisions of the time. It also dovetailed with the broader national plan of the New Economic

---

88Ibid., p. 288.

89Ibid., p. 289.
System (and its kakuritsu yōkō). The Financial Outline included a key "Plan on National Financial Mobilization" (Kokka Shiken Dōin ni kansuru Keikaku). The basic idea of this Plan was to pool centrally and to allocate nationally available funds into the three areas of "public finance, industrial promotion, and national consumption." 

An agreed policy direction was to form the Emergency Cooperative Financing Syndicates (jigyoku kyōdō yūshidan; ECFS) in August, 1941. ECFS was reportedly formed "autonomously" (jishūtekini) by IBJ and ten city banks. ECFS was "an extremely powerful collectivity of 5 trust banks and 11 city banks" as follows:

- Industrial Bank of Japan
- Dai-ichi Bank
- Mitsui Bank
- Mitsubishi Bank
- Sumitomo Bank
- Yasuda Bank
- Dai-Hyaku Bank
- Sanwa Bank
- Nomura Bank
- Tokai Bank
- Kobe Bank
- Mitsui Trust Bank
- Mitsubishi Trust Bank
- Yasuda Trust Bank
- Sumitomo Trust Bank
- Sanwa Trust Bank.

---


91Ibid.


93Since 1941, Yasuda Trust Bank and Tokai bank have also been regular members of the syndicate. While the syndicates for many other firms had consisted of these sixteen financial institutions,
The "Outlines" of organization and working of ECFS announced in August, 1941 illustrate how cooperative financing would be accomplished. To cite major clauses:

- The purpose of this syndicate is to perform cooperative investigation of and lending for the industries that require funding to maintain or expand production.

- Industrial Bank of Japan will become the managing bank of the syndicate which performs liaison with the Ministry of Finance and the Bank of Japan and negotiation with the syndicate members.

- This syndicate will provide loans in cooperation between all members and/or provide good offices of parts of syndicated loan or loans by single member institutions.

- This syndicate can support the existing syndicated loans and single-source loans.

- This syndicate shall also perform the underwriting of publicly subscribed private securities.

- The shares for each member will be decided upon by the managing committee.

- Investigation of applied syndicated loans will be perform by IBJ and the bank(s) which will function as main bank(s) of the transaction.

The sixteen original members had participated in loan syndicates for a wide variety of companies in different combinations of syndication. As suggested in Table 5-3, which lists selected examples, however, IBJ was in almost all of the important syndicates.

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Hitachi had one more -- Dai-ichi Trust Bank -- in its syndicate. This is another indication of Dai-ichi Bank's commitment to Hitachi as the main bank.

"Fuji Ginkō Kabushiki Kaisha, 1982, p. 452-3."
Table 5-3

Selected Examples of Emergency Cooperative Financing Syndicates
(as of 1941)

<table>
<thead>
<tr>
<th>company</th>
<th>syndicate members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperial Mining</td>
<td>all 11 banks</td>
</tr>
<tr>
<td></td>
<td>all 5 trust banks</td>
</tr>
<tr>
<td>Nippon Coal</td>
<td>all 11 banks</td>
</tr>
<tr>
<td></td>
<td>Mitsui Trust</td>
</tr>
<tr>
<td></td>
<td>Mitsubishi Trust</td>
</tr>
<tr>
<td></td>
<td>Yasuda Trust</td>
</tr>
<tr>
<td></td>
<td>Sumitomo Trust</td>
</tr>
<tr>
<td>Tachikawa Aircraft</td>
<td>all 11 member banks</td>
</tr>
<tr>
<td>Sekisan Precision</td>
<td>IBJ</td>
</tr>
<tr>
<td>(Osaka)</td>
<td>Yasuda Bank</td>
</tr>
<tr>
<td></td>
<td>Dai-Hyaku Bank</td>
</tr>
<tr>
<td></td>
<td>Sanwa Bank</td>
</tr>
<tr>
<td></td>
<td>Nomura Bank</td>
</tr>
<tr>
<td></td>
<td>Sanwa Trust Bank</td>
</tr>
<tr>
<td></td>
<td>Köbe Trust Bank</td>
</tr>
<tr>
<td>Kayaba, Ltd.</td>
<td>IBJ</td>
</tr>
<tr>
<td></td>
<td>Mitsui Bank</td>
</tr>
<tr>
<td></td>
<td>Yasuda Bank</td>
</tr>
<tr>
<td></td>
<td>Dai-Hyaku Bank</td>
</tr>
<tr>
<td>Yokoyama Ind. Co.</td>
<td>IBJ</td>
</tr>
<tr>
<td></td>
<td>Yasuda Bank</td>
</tr>
<tr>
<td></td>
<td>Nomura Bank</td>
</tr>
</tbody>
</table>

As the managing bank of the syndicate, IBJ accounted for more than a fifth of the total amount of cooperative financing around this time. More specifically, IBJ’s shares were:\footnote{Nippon Kōgyō Ginkō, 1957, p. 459 and p. 578.}

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1939</td>
<td>17.4%</td>
</tr>
<tr>
<td>1940</td>
<td>19.1%</td>
</tr>
<tr>
<td>1941</td>
<td>21.0%</td>
</tr>
<tr>
<td>1942</td>
<td>21.6%</td>
</tr>
<tr>
<td>1943</td>
<td>24.4%</td>
</tr>
<tr>
<td>1944</td>
<td>30.4%</td>
</tr>
<tr>
<td>1945</td>
<td>26.2%\footnote{The 1945 figure corresponds to the statistic as of August.}</td>
</tr>
</tbody>
</table>

The number of participant banks in each loan syndicate varied. One group of syndicates consisted of 2 to 3 members. A second group of syndicates consisted of 6 to 10 banks. The latter groups mostly involved government-backed corporations or special corporations heavily engaged in munitions.\footnote{Yamazaki, 1986, p. 29.} Assignments of the designated banks fell mostly on to five large banks and four large trust banks. In short, as suggested in Table 5-4, munitions loan syndicates were another form of managed competition between rival banks.\footnote{The system of designated banks was dissolved in April, 1946 by SCAP.}

The most important point about ECFS was that it worked as a pivot. Large commercial banks had turned from commercial banking (shōgyō kin’yū) to industrial banking (kōgyō kin’yū).\footnote{Okurashō, 1957, p. 290.} For the smooth operation of loan syndicates, the competition between
Table 5-4
Selected Cases of Munitions Loan Syndicates
(as of June, 1944)

<table>
<thead>
<tr>
<th>firm</th>
<th>designated bank</th>
<th>loan syndicate members</th>
</tr>
</thead>
</table>
| Asano Cement        | IBJ             | IBJ
|                     |                 | Imperial Bank          |
|                     |                 | Yasuda Bank            |
|                     |                 | Yasuda Trust Bank      |
|                     |                 | Dai-Ichi Trust Bank    |
| Sumitomo Cable      | IBJ             | IBJ
|                     |                 | Sumitomo Bank          |
|                     |                 | Sumitomo Trust Bank    |
| Sumitomo Chemical   | Sumitomo Bank   | Sumitomo Bank          |
|                     |                 | Sumitomo Trust Bank    |
| Mitsui Shipbuilding | IBJ             | IBJ
|                     |                 | Imperial Bank          |
|                     |                 | IBJ
|                     |                 | Sumitomo Bank          |
|                     |                 | Mitsui Trust Bank      |
| Maruzen Petroleum   | Sanwa Bank      | Sanwa Bank             |
|                     |                 | Imperial Bank          |
|                     |                 | Mitsubishi Bank        |
|                     |                 | Sumitomo Bank          |
|                     |                 | Yasuda Bank            |

rival banks was regulated, both voluntarily and by coordination. Competition for lending opportunities was discouraged so that risk in loan concentration could be diffused, and excessive and redundant loans evaded, and irrational collecting of loans not attempted. More importantly, however, the banks in inferior lending positions or the ones that did not have first-tier manufacturing firms on their client list, took advantage of cooperative financing to improve their positions.¹⁰⁰ Emergency syndicates for target munitions industries worked "fairly smoothly" (sōtō kappatsu ni) for about one year until May, 1942.¹⁰¹ But another turn awaited loan syndication.

The creation of a "wartime fund depository" (Senji Kin’yu Kinkō; Senkin hereafter) had been conceived with the start of the Sino-Japanese War in 1937. The effort was in vain, however, only because of the vehement resistance of the financial industry.¹⁰² With the Pacific War raging, however, the opposition had lost momentum and the Senkin was formally established in April, 1942.¹⁰³ Senkin funded the high-risk, military enterprises under various names such as "special fund" (tokushū shikin),

¹⁰⁰Yamazaki, 1986, p. 28. This is how Sanwa Bank became the main bank of Hitachi in the postwar period.


¹⁰²For a detailed account of the conflict, see Okurashō, 1957, pp. 304-7.

¹⁰³There is an observation that Senkin was promoted by the political forces that were discontented with IBJ’s funding policies on the grounds that IBJ was still oriented toward private profits (Imuta, 1991, p. 20-21).
"highly-classified fund" (kōdō himitsu shikin), "facility fund" (setsubi shikin), and "long-term fund" (chōki shikin). Another important function of Senkin was to buy up bonds and stocks (kabushiki kaiage) of munitions firms so their securities maintained some level of market price.\textsuperscript{104}

As the war developed, control over industrial finance became tighter. In May, 1942, the National Financial Control Council (NFCC) was created. As a new method of promoting industrial finance, NFCC came to take charge of "guidance and good offices" (shidō assen) of loans for the corporations of strategic importance, replacing ECFS with "Munitions Financing Cooperative Syndicate" (Gunju Kyōryoku Yūshidan). NFCC's "guidance and good offices" were not only imposing but also detailed. According to MOF:

Whenever more than two financial institutions, nation-wide or regional, make loans in cooperation, the managing bank or the financial institution in charge of the syndicated loan shall consult the council regarding the syndicate participants, loan amount, interest rates, shares of loan, and others. Only based upon this consultation (tatema), the council will grant the syndication so that the council will be able to implement guidance and good offices of loan syndicates, nationally and without any exception.\textsuperscript{105}

Under the NFCC regime, which had lasted for some 11 months until June, 1943, a total of 928 loan syndicates were organized. Even though the NFCC regime was short-lived, it brought about several

\textsuperscript{104}Imuta, 1991, p. 21. Senkin's source of fund mobilization was wartime financial debentures. These debentures received the treatment of quasi-government bonds, and thus could have been allocated to private financial institutions through control councils for underwriting and sales.

\textsuperscript{105}Okurashō, 1957, p. 295.
important developments, which would have ongoing influences in the post-war period.

First, the most notable development was the great advancement of the city banks’ role as the managers of loan syndicates. There were 573 syndicates for which managing institutions were identified during this period (see Table 5-5). According to this data, 40% (228 cases) of managing positions were accounted for by city banks while IBJ was responsible for 150 cases alone or in cooperation with commercial banks. Compared to the period of 1939-41 during which IBJ managed more than two thirds of the syndicates, it is rather obvious that major responsibility for management shifted from IBJ to city banks. Together with the rise of city banks, regional banks became important in managing loan syndicates, accounting for the management of as many syndicates as were managed by IBJ. An important implication of these two developments was that loan syndication crossed the narrow boundary of rule by eleven banks and five trust banks of ECFS. This widening of scope applied not only to managing, but also to participation in the syndication itself. One piece of evidence of this prevalence was the "standardization" of interest rates between all kinds of financial institutions.\(^{106}\)

As the war reached its peak, the Japanese government was forced to identify the most effective way of funding munitions firms. One new method the Japanese government came up with was

\(^{106}\)Ibid., p. 299.


Table 5-5 (a) and (b)

COMPOSITION OF LOAN SYNDICATES: 1942-43

<table>
<thead>
<tr>
<th>number of participant banks</th>
<th>number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>190</td>
</tr>
<tr>
<td>3</td>
<td>176</td>
</tr>
<tr>
<td>4</td>
<td>116</td>
</tr>
<tr>
<td>5</td>
<td>82</td>
</tr>
<tr>
<td>6</td>
<td>71</td>
</tr>
<tr>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td>8</td>
<td>51</td>
</tr>
<tr>
<td>9</td>
<td>34</td>
</tr>
<tr>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>number of participant banks</th>
<th>number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>2</td>
</tr>
<tr>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>928</td>
</tr>
</tbody>
</table>

MANAGING INSTITUTIONS OF SYNDICATES UNDER THE REGIME OF FINANCIAL CONTROL COUNCIL: 1942-43

<table>
<thead>
<tr>
<th>managing institution</th>
<th>number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBJ alone</td>
<td>117</td>
</tr>
<tr>
<td>IBJ with other special bank</td>
<td>21</td>
</tr>
<tr>
<td>IBJ with city bank</td>
<td>12</td>
</tr>
<tr>
<td>city bank</td>
<td>228</td>
</tr>
<tr>
<td>regional bank</td>
<td>114</td>
</tr>
<tr>
<td>trust bank</td>
<td>16</td>
</tr>
<tr>
<td>insurance company</td>
<td>4</td>
</tr>
<tr>
<td>others</td>
<td>61</td>
</tr>
<tr>
<td>total</td>
<td>573</td>
</tr>
</tbody>
</table>

source: Okurashō, 1957, p. 298.
to name specific banks to specific manufacturing firms to be responsible for funding 'without interruption and waste of time'. As such, the 1943 enactment of the "Munitions Corporation Law" combined cooperative financing and central planning for industrial production. Under this law, corporations were assigned to specific banks for industrial funds. A special characteristic of this formula was that loan syndicates provided funds not to corporations directly but to their designated munitions banks (shitei ginkō). The designation of banks to corporations was made by the MOF based upon financial, human and capital relationships during the previous five years.¹⁰⁷ Munitions corporations were appointed in several waves as follows:

1st appointment (January 7, 1944) 150 companies
2nd appointment (April 27, 1944) 424 companies
3rd appointment (December 29, 1944) 119 companies
4th appointment (February 3, 1945) 41 companies.¹⁰⁸

What had changed was the method of intermediation, not the pooling mechanism. Syndication between rival banks remained intact. In the case of Sumitomo Cable, IBJ was appointed as the designated (managing) bank even though its zaibatsu bank, Sumitomo Bank, was the member of the syndicate. This seems to


¹⁰⁸Munitions "supplementary" (jūjoku) companies were appointed for the firms of transportation, warehouse, and electricity distribution industries which were related with munitions production. The appointment was based on the separate "Munitions Supplementary Corporation Law" (Gunju Jūjoku Kaisha Hō) of January, 1945.
suggest a high degree of cooperation that went beyond the borders of zaibatsu and other divisions. This spirit of cooperation is also seen in the fact that rival banks supported each other with direct lending/borrowing transactions to manage spot shortages. Indeed, as the tenor of the time demanded, cooperation between rival banks seems to have been closer, including direct loan transactions between rival banks as suggested in the relationships between Mitsubishi Bank and others (Table 5-6).

While the formal control belonged to NFCC in this financing formula, the expertise was still provided by IBJ. According to the IBJ history book:

[After the establishment of NFCC] Guidance and good offices of loan syndicates came to belong in the purview of NFCC, but NFCC commissioned the works to this Bank... During July 1942 and April 1944, a total of 2,009 cases of loan syndicates were implemented under NFCC.\(^{109}\)

B. The Post-War Period

The pre-war institution of cooperative financing -- both loan syndication and underwriting syndication -- continued in the post-war period. As for loan syndicates, the role of IBJ came to shrink as it was no longer commissioned with the role of facilitating war financing. Instead, the keiretsu main banks assumed the role of the managing bank in most syndicates. On the

\(^{109}\)Nippon Kōgyō Ginkō, 1957, p. 584.
Table 5-6
Banks Cooperating with Mitsubishi Bank
(as of May, 1945)

Loans from Mitsubishi Bank

<table>
<thead>
<tr>
<th>Bank</th>
<th>amount (million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBJ</td>
<td>215</td>
</tr>
<tr>
<td>Teikoku</td>
<td>166</td>
</tr>
<tr>
<td>Yasuda</td>
<td>73</td>
</tr>
<tr>
<td>Sumitomo</td>
<td>47</td>
</tr>
<tr>
<td>Sanwa</td>
<td>42</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>558</strong></td>
</tr>
</tbody>
</table>

Loans to Mitsubishi Bank

<table>
<thead>
<tr>
<th>Bank</th>
<th>amount (million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitsubishi Trust</td>
<td>137</td>
</tr>
<tr>
<td>Teikoku</td>
<td>59</td>
</tr>
<tr>
<td>Sanwa</td>
<td>44</td>
</tr>
<tr>
<td>Yasuda</td>
<td>38</td>
</tr>
<tr>
<td>Sumitomo</td>
<td>36</td>
</tr>
<tr>
<td>Others</td>
<td>113</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>427</strong></td>
</tr>
</tbody>
</table>

side of underwriting syndicates, long-term credit banks emerged as key players. In what follows, each practice will be discussed in turn.

(1) Loan Syndicates

It was not too long after the end of World War II that loan syndicates revived in the Japanese industrial scene. Interestingly enough, cooperative finance in the post-war period began to regain its momentum by the loan 'good offices' of BOJ. BOJ began the "Loan Good Offices" (yūshi assen) in 1946. The practice of yūshi assen was created in a national campaign called "priority production" (keisha seisan). In order to escape from the state of destruction and bad inflation, the Japanese government had decided to focus on the renaissance of the two key industries of coal and steel, which became the basis of general industrial reconstruction. As such, these two industries were to receive all kinds of promotional support on a priority basis.110

Securing "smooth" (enkatsu) supplies of funds for industrial corporations engaged in the priority production was of crucial

110 Under the order of prime minister Yoshida Shigeru, a "Special Committee on Coal" began meeting at the Ministry of Foreign Affairs in November, 1946. In discussion on how to obtain coal, the idea of priority-basis production system was conceived at the initiative of Prof. Arisawa Hiromi of the University of Tokyo, the chair of the committee. The system was then broadcasted on the radio in December in an effort to gain support to make it the government official policy.
concern. For this purpose, the Reconstruction Finance Bank (RFB) was created on January 24, 1947.\textsuperscript{111} With the "Policy on Good Offices of Fund Exchanges in the Central Region" (Chūō Chihō wo dōsuri Shikin Kōryū Assen Hōshin) on December, 1946, the BOJ stated that cooperative financing or loan syndicates should be formed among its major transaction banks. In order to manage increasing loan good offices, then, the "Loan Good Offices Council" (Yūshi Assen Iinkai) was instituted in July, 1948. The Council consisted of senior loan managers from 19 banks and director-level officers of the BOJ.

The corporation that would receive the coordinated loans were selected on the basis of the "Industrial Fund Loan Priority List." As such, loan decisions were made based more on the firm's ranking in the list than on its need for loans, and applications for the loans were to be made by the firm's main bank. Based on the main bank's judgement, then, BOJ would make matching loans, either solely or with other commercial banks. In actuality, the practice was no different from that of the pre-war Control Council.\textsuperscript{112} Indeed, the Rule on the Credit Supply of Financial Institutions (Kin'yū Kikan Shinkin Yūzū Junsoku) enacted in March, 1947 demanded that large commercial banks lend

\textsuperscript{111}A "brainchild" of the then powerful Minister of Finance, Ishibashi Tanzan, RFB loans were reported to have "overshot the total of all private banks" in 1947 in funding the coal and steel industries (Rosenbluth, 1989, p. 115). But the RFB lending had been terminated by the anti-inflationist Dodge Line in March, 1949. For RFB loans and the Dodge Line, see C. Johnson, 1982, chapter 5.

\textsuperscript{112}See, for example, Okazaki, 1993b, p. 124.
preferentially to the priority industries. This was the continuation of the spirit of 1937 legislation.

In the immediate post-war years, when the role of keiretsu main banks was not established and the pre-war function of IBJ as managing bank became smaller, loan syndicates were formed and managed by combinations of public and private banks. The public financial institutions included the Japan Development Bank (JDB), the Export-Import Bank (EXIM Bank), the Long-Term Credit Bank (LTCB), and the Hokkaido and Tōhoku Development Corporation (HTDC). In the course of promoting recoveries of manufacturing industries, specialized banks were reorganized into long-term credit banks, and new public financial institutions (e.g. the Japan Development Bank) were established. "This laid the groundwork for effective syndication of loans and coordination of underwriting."\(^{113}\) The private institutions were city banks, trust banks, local banks and some foreign banks. But there was some division of labor between the public and private institutions. The public institutions were mostly responsible for long-term, facilities investments, and the private institutions were in charge of the loans to meet short-term, operating needs.

Selected cases of loan syndicates that were managed by the Japan Development Bank (JDB) are illustrated in Table 5-7. The data show that special banks and commercial banks worked together

\(^{113}\)Sakakibara and Feldman, 1990, p. 41.
Table 5-7
Selected Cases of Cooperative Financing
Led by Japan Development Bank (JDB)
(in the postwar period)

<table>
<thead>
<tr>
<th>the market the borrower belongs *</th>
<th>channels of contact with JDB</th>
<th>principal lenders before JDB entry</th>
<th>subsequent changes after syndicate forming with JDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>chemistry</td>
<td>personal ** introduction</td>
<td>1 regional bank</td>
<td>- new entry of 1 LTCPB ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 city bank</td>
<td>- increases in banks’ shares</td>
</tr>
<tr>
<td>steel works</td>
<td>personal ** introduction</td>
<td>1 city bank</td>
<td>- new entry of 1 LTCPB ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 mutual fund</td>
<td>- 3-fold share increase for banks</td>
</tr>
<tr>
<td>machine leasing</td>
<td>introduction by main bank</td>
<td>2 city banks</td>
<td>- new entry of 1 LTCPB ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- increases in banks’ shares</td>
</tr>
<tr>
<td>home electronics by</td>
<td>introduction by main bank</td>
<td>1 LTCPB ***</td>
<td>- new entry of 2 city banks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 city banks</td>
<td>- increases in banks’ shares</td>
</tr>
<tr>
<td>electronic parts</td>
<td>introduction by parent co.</td>
<td>1 city bank</td>
<td>- new entry of 2 LTCPBs ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 trust bank</td>
<td>- prime rate now applies to banks</td>
</tr>
<tr>
<td>machine tool</td>
<td>personal ** introduction</td>
<td>2 regional banks</td>
<td>- increases in regional banks’ fund holding (20-fold)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- prime rate now applies to banks</td>
</tr>
</tbody>
</table>

* The author kept the company names unknown.
** "Personal" here means the "old-boy" network of the financial industry.
*** LTCPB stands for long-term credit bank.

to fund firms of diverse industries. What is particularly interesting is the informal nature of the ways in which the transactions between banks and industrial corporations were established. Personal introductions between high-level managers at both banks and industrial corporations appear to be the primary reason for the success of forming a transaction. This informal nature confirms the point I have already made in terms of managerial sovereignty. Discretion and social engineering seem no less important than economic logic in forming and having managed loan syndication.

More important than the policies of financing were transactions between commercial banks and industrial corporations that did not belong within the purview of administration or good offices of MOF and BOJ. Despite central control and management of the syndicate, private banks began to find being a subscription/underwriting member increasingly difficult when the market fluctuated while the terms of re-sale stayed rigid. This failure of market function gave rise to another important principle which was used during the post-war period: bloc purchase of government bonds by BOJ and its distribution to private syndicate members. Under this arrangement, the syndicator or managing bank had a special position either as the provider of dependable borrower information to the participant banks or as a symbol of the government's commitment to the development of the industry to which the borrower belonged. It is still a matter of controversy, however, whether the syndicate
was designed by the syndicator bank from scratch, and thus became "cooperative" _ex ante_, or if it became "cooperative" _ex post facto_ when the special bank joined the existing collective loan arrangement. In reality, both types of loan syndicates were established.

The number of loan syndicates arranged by special banks began to grow from the late 1950s when the drive for "enlarging" economies of scale (寮ata) of various industrial corporations began. But this fact reveals only a small part of the system of cooperative financing as it only represents the cooperative financing made in the context of the "policy financing."\(^{114}\)

While the "managing bank" as an independent entity was important in the pre-war period, the post-war managing banks became "main banks" of keiretsu. Cooperative financing is deeply linked to the widely known problem of the "main bank" system. In the early 1950s, the main bank system was established. It is important to note that the main bank system and cooperative financing existed within a mutually dependent relationship. As Paul Sheard notes, one important role of the main bank is to secure the cooperation of other banks in funding the industrial corporation in question.\(^{115}\) Both cooperative financing and main bank practices are rooted in this structure of indirect finance

\(^{114}\)As early as on August 1, 1946, IBJ started "recovery financing" (復興金員).

\(^{115}\)Sheard, 1986, p. 266-70.
and are two pillars of industrial finance in Japan. Toward the
latter part of the 1960s, pre-war designated banks recovered
their own stocks and competed for the position of the main bank
for industrial corporations. Even after the establishment of
main banks, however, the system of bank loans depended on
cooperative finance because demands for industrial funds exceeded
supplies to the point that one single main bank alone could not
meet the needs of the client corporation.\footnote{116} As such, one
important role of the main bank for its borrowing corporation was
to find other banks as members for a loan syndicate.\footnote{117} In this
sense, cooperative financing came to form an organic whole with
the main bank financing.\footnote{118}

A key hinge that links the pre-war tradition of IBJ-led
syndication and the post-war institution of the keiretsu main
bank system is long-term credit banks and their debentures.
Nikami thus argues that cooperative financing in the post-war
period was re-established with the main bank system in place.\footnote{119}
Packer contends that the settlement of the long-term credit banks
"within the system of main bank relationship" is "a defining
characteristic of the Japanese [post-war] financial system."\footnote{120}
In his words, long-term credit banks "have brought active and

\footnote{116}{See, for example, Nikami, 1988, p. 28.}

\footnote{117}{Sheard, 1986, pp. 266 and 270.}

\footnote{118}{Masaaki, 1985, pp. 88-92.}

\footnote{119}{Nikami, 1988, p. 28.}

\footnote{120}{Packer, 1994, 143.}
knowledgeable participation to the syndication of credits, and
provided a source of main bank services to large companies
outside the principal bank groups."

The debut of keiretsu main banks as managing banks of loan
syndicates was made against a paradoxical background: the
consolidation of the dominance of indirect financing (banks) over
direct financing (securities firms). It was a paradox that the
dominance meant the failure of the national commitment to the
"normalization" of industrial financing through "democratization
of corporate economy" by making securities the central medium of
household savings and industrial financing.

The predominance of indirect financing was in part a
historical accident and in part a human creation as well. During
the period before World War II, the Japanese financial system was
oriented to direct finance. Ironically the decision of the
Supreme Allied Forces Command (SCAP hereafter) to 'democratize'
the Japanese economy functioned to pave the way for the
predominance of indirect finance (which is "backward" in modern
economic thinking). SCAP's dissolution of the zaibatsu and de
facto confiscation of equities as a consequence changed the
ownership structure of assets. A net result of this change was
the ending of private placement of equities, which led to
increasing demands for loans from financial intermediaries.
Paradoxically, "zaibatsu dissolution and the de facto
confiscation of equity actually accelerated the trend from direct

\[121\] Ibid.
to indirect financing."\textsuperscript{122}

The orientation toward indirect finance was a welcome one for the Japanese economy at that time. After the ending of World War II, there was a national consensus for the reconstruction of the economy, which was to be achieved by the "catch-up" development method, particularly of heavy and chemical industries. Even though the United States had provided a favorable economic environment with financial assistance, technology transfers, and export markets, both the Japanese government and firms were in severe financial straight-jackets. The Japanese had then agreed to make investments to such "strategic industries" as steel, coal, shipbuilding, and electricity -- on a priority basis. As these basic industries had triggered the development of other manufacturing industries, "investments called for investments."

\textsuperscript{122}Sakakibara and Feldman, 1990, pp. 28-29. Another reason involved a tax policy. Tax benefits have been traditionally given to individuals and households who choose bank deposits as a source of asset formation. The tax incentives were no less important to non-financial corporations because they were in general capitalistically "thin" entities. With high debt to equity ratios, they had to pay relatively large interest expense, which will in turn enable them to pay reduced income tax. Bank loans were also cheaper because interest is considered before taxes while dividends for equities are calculated after taxes. Moreover, firms have also found bank loans to be more favorable than the issuance of securities as a means to procure industrial funds.
(2) Securities Underwriting Syndicates

The termination of RFB lending brought about a major barrier to the smooth offering of industrial funds. But the Japanese financial community already had experience, through the war preparation efforts in the 1920s through 1940s, in finding an alternative to bank loans -- the bank-backed issuance of corporate bonds. Indeed, the Japanese financial community outlined two important measures in promoting the bond issuance market as a way of providing long-term funds to manufacturing firms. One was the "tied-up buying operation" (himotsuki ope) of RFB bonds and government bonds; and the other was the method of providing BOJ loans based on the prior screening of mortgage qualification (nichigin tanpo takikaku shasai jizen shinsa seidō). With the tied-up buying operation, commercial banks were encouraged to purchase new issues of corporate bonds as the BOJ would supply funds to such commercial banks by buying back their RFB bonds or government bonds for a specified amount in proportion to the bond's purchase price. In short, the system was a facile mechanism of securing liquidity by tying the commercial banks' purchase of corporate bonds with the BOJ's purchase of public bonds held by the banks. This "tied-up" buying operation continued until September, 1951 when BOJ found itself in a financial straight jacket. It also made sure that the amount of public bonds in the market had been remarkably reduced. The size of the operation was, however, substantial.
In 1949, for instance, more than 10 billion yen worth of corporate bonds were issued and purchased by commercial banks due to this operation.\textsuperscript{123}

In the second mechanism, BOJ provided loans to commercial banks that, in turn, gave loans to industrial corporations with the latter's bonds as mortgage. The merit of this mechanism was that the corporate bonds in question would go under the BOJ's screening of qualifications; if the bonds passed the screening be based on all the information of the firm in question submitted by the lending bank, then they would be treated as mortgages, and as favorably as government bonds. With this mechanism, the BOJ credits came to add to market liquidity. Even though these BOJ-initiated methods of securing liquidity did not continue for many years, they contributed, as an unplanned externality, to solidify the ideology that commercial banks ought to function as facilitators of industrial financing. In order to fight the sluggishness of the securities markets, the BOJ set up a consultative (kondan) body named the "Bond Issuance Regulation Council" (BIRC; kisai chōsei kyōgikai) in June, 1947. The members of the BIRC were representatives from the following organizations:

- Ministry of Finance
- Economic Stabilization Board
- Bank of Japan
- Reconstruction Finance Bank
- Central Cooperative Bank for Agriculture and Forestry
- Industrial Bank of Japan
- Imperial Bank

\textsuperscript{123}Yamaichi Shōken Kabushiki Kaisha, 1958, p. 392.
Sanwa Bank.
The purpose of this organization was to maintain "smooth supplies of long-term credits so as to distribute industrial funds optimally and in conformance with government plans."\textsuperscript{124} It was agreed that the term of bond issuance would be uniform and the amounts and the order of bond issuance would be coordinated based upon the Temporary Fund Regulation Law.

Throughout the late 1940s and 1950s, placement of corporate bonds was carried out by something called the "8-Bank Council" (yakōkai), which consisted of:

IBJ
Mitsui Bank
Mitsubishi Bank
Fuji Bank
Sumitomo Bank
Sanwa Bank
Dai-ichi Bank
Nihon Kangyō Bank.

The practice of cooperative financing in the form of the underwriting syndicate revived. Cooperative underwriting of corporate bonds began to pick up gradually. Table 5-8 suggests a summary of the currently available statistical data on bond underwriting compiled by the Industrial Bank of Japan. First of all, independent underwriting of corporate bonds by commercial banks gave in gradually to syndicated underwriting since 1946. Also, in parallel with this developmental trend was the expansion of IBJ's role again in underwriting -- but not to loan --

\textsuperscript{124}Ibid., p. 374.


Table 5-8

INDEPENDENT AND COOPERATIVE UNDERWRITING OF CORPORATE BONDS

(selected years)

(percentages over total numbers of cases)

<table>
<thead>
<tr>
<th></th>
<th>independent</th>
<th>cooperative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>banks (IBJ only)</td>
<td>trust banks only</td>
</tr>
<tr>
<td>1928</td>
<td>35%</td>
<td>6%</td>
</tr>
<tr>
<td>1935</td>
<td>12%</td>
<td>1%</td>
</tr>
<tr>
<td>1941</td>
<td>7%</td>
<td>1%</td>
</tr>
<tr>
<td>1946</td>
<td>44%</td>
<td>(45%)</td>
</tr>
<tr>
<td>1949</td>
<td>51%</td>
<td>(32%)</td>
</tr>
<tr>
<td>1950</td>
<td>39%</td>
<td>(13%)</td>
</tr>
<tr>
<td>1956</td>
<td>27%</td>
<td>(5%)</td>
</tr>
<tr>
<td>1958</td>
<td>29%</td>
<td>(20%)</td>
</tr>
</tbody>
</table>

syndicates. The underwriting syndicates organized and managed by the IBJ account for an absolute majority of all underwriting syndicates.

By forming and managing the syndicates, the practice of "pre-concerting" (mōshi awase) among syndicate members was also recovered as a central guiding principle. Through pre-concerting, the following four rules were made and observed:

a. Each member shall contribute to the placement bonds by underwriting a considerable amount (sōtōgyaku);

b. If the securities firms as sub-underwriters (gehikiuke gyōsha) wish to buy bonds for their own holding or to maintain market prices, the syndicate members shall help them with funds;

c. The size of the syndicate can be expanded if need be; and

d. The members shall refrain from selling bonds which they have underwritten, and when they have to sell, they shall obtain the understanding of the financial authority.  

With the establishment of three large long-term credit banks (LTCBs) by 1957, there were six financial institutions that issued debentures. Even though debentures are placed through

\[125\] H. Takeuchi, 1956, p. 117.

\[126\] IBJ and the Long-term Credit Bank had been already chartered in 1952 as the Long-Term Credit Bank Law passed the Diet in June in the same year. For detailed English account of the formation of postwar long-term credit banks, see, Packer, 1994.

\[127\] The six institutions are: the Industrial Bank of Japan; the Long-Term Credit Bank; the Nippon Credit Bank; the Bank of Tokyo; the Central Cooperative Bank for Agriculture and Forestry (Nōrinchūkin; and the Central Cooperative Bank for Commerce and Industry (Shōkōchūkin).
securities firms in other countries, they were to be placed through banks in Japan. Therefore, the flow of funds as payments for debentures was from purchasing individuals, to banks, to debenture-issuing institutions, and then to manufacturing firms, which had borrowed funds from the debenture-issuing banks. In short, the debenture became an instrument of intermediate financing.\textsuperscript{128} This was a remarkable phenomenon when we consider that the total issues of debentures accounted for more than 60\% of all bonds issued in the 1960s. Shimura Ka-ichi summarizes this as follows:

Through the 'high-growth' period, debentures accounted for some 60\% of all bonds issued in Japan. This means that a majority of funds collected through bond markets flew into the hands of the six debenture-issuing institutions, which in turn was channelled into the loan markets.\textsuperscript{129}

As for the role of long-term credit banks, Shimura offers a more important observation. According to him, long-term credit banks, during the high-growth period, spent more than 80\% of their revenues on long-term loans to industrial corporations. The foremost characteristic of this operation was, as Shimura writes:

Industrial financing during the high-growth period was implemented with the loan competition among city banks as the axis. Here long-term credit banks had assumed the role of cooperating with or assisting the city banks.\textsuperscript{130}

\textsuperscript{128} Shimura, 1978, p. 210. This ironic fact was referred to, cynically, as "indirect-indirect financing" (kan kansetsu kin'yū). See, Ibid., p. 295.

\textsuperscript{129} Ibid., p. 211.

\textsuperscript{130} Ibid.
The secret of this cooperative relationship between city banks and LTCBs in a form of exchange can be interpreted against the backdrop of the establishment of the main bank system. More than a third of long-term credit banks' debentures were placed through city banks. For this service, city banks demanded long-term credit banks to participate in cooperative financing for their keiretsu firms, which were in a perpetual state of need for funds, in both facility investment and routine operation. Shimura calls this exchange relationship the "conditional placement" (himotsuki shōka) of debentures.

A similar relationship is found with coupon bonds. As Packer summarizes, "city banks could expect financing for their preferred customers from long-term credit banks in return for their purchases of the coupon bonds. Apparently, a rule of thumb was for the long-term credit banks to make loans to the city banks' preferred customers for approximately double the amount of bond purchases of that city bank."131

Another important role to be played by long-term credit banks was that their debentures functioned as de facto enterprise bonds of industrial corporations. In the pre-war period, as I have discussed in detail already, banks co-underwrote corporate bonds. In the post-war period, however, banks were not prohibited from underwriting bonds. This new rule proved to be a severe limit on industrial corporations' access to funds. At this juncture, however, long-term credit bank debentures came to

substitute corporate bonds as LTCBs gave loans to industrial corporations with funds obtained from the debenture selling. Shimura refers to this as the "substitution of corporate bond issues" (jigyōsai hakkō no daī):

On behalf of industrial corporations which were now prohibited from issuing bonds, LTCBs issued debentures, which would then become the source of long-term loans for the corporation.¹³²

Among all these LTCBs, IBJ is the most important one. The comeback of IBJ as a long-term funding institution was not easy. As Packer writes, "in November 1948, IBJ had already obtained the verbal approval of Occupation authorities to recapitalize as a bank specializing in long-term credit with bond-issuing authority."¹³³

III. CONCLUDING DISCUSSIONS:

THE PUBLIC NATURE OF BANKING AND THE NORM OF INTER-BANK COOPERATION IN JAPAN

In the foregoing discussion, I attempted to demonstrate the "orderliness" of the relationship among financial institutions through the case study of financial syndication. The orderliness of the Japanese financial industry is attested to by cooperation

¹³²Ibid.

¹³³Ibid., p. 145.
among rival banks. This cooperative nature is reflected in the fact that there has been no bankruptcy of any commercial bank in post-war Japan.\(^ {134}\) As a Dai-ichi Kangyō Bank manager puts it, the Japanese banking market is a "safety market" (anzen shijō) with no bankruptcy and no new market entrance.\(^ {135}\) In the minds of conventional economists, money flows like water. As water flows freely from higher to lower places, available funds move freely in search of higher returns on investment led by price signals and through the medium of financial institutions.

However, the scene is quite different in Japan.\(^ {136}\) Japanese banks play important roles in industrial financing not merely as limited-liability corporations that pursue the maximization of profits and dividends. They are important social institutions that reflect and implement ideologies and norms which the society creates and imposes. A predominant norm, which has continued to govern Japanese banks, is one that banks ought to contribute to industrial development, particularly in terms of securing stable supplies of funds for industrial corporations.

\(^ {134}\)Teranishi, 1991, p. 147.

\(^ {135}\)Interview, Assistant General Manager, Corporate Banking Division, The Dai-Ichi Kangyo Bank, Tokyo, 9 August 1992.

\(^ {136}\)In his comparative study, John Zysman characterized the Japanese financial system as a "credit-based financial system." According to Zysman, Japan, France, and West Germany are found to have the credit-based financial systems while the United States and the United Kingdom have capital-market based systems. Among credit-based systems, however, the Japanese system is particularly "dependent on banks as intermediaries between savers and users of capital... The crucial link in Japanese finance, therefore, is that between banks and corporations" (Zysman, 1983, p. 246).
In this milieu, the pursuit of higher returns on loans or financial asset management has not been a primary goal for the managers of Japanese banks. The notion of serving shareholders has never surfaced as the goal to be pursued by bank managers. Instead, Japanese banking executives have been concerned more with conforming to the norms they share, at least when it comes to inter-bank relationships.

A. **Maintaining the Stable Credit Order as the Public Function of Commercial Banks**

While bank managers are the implementors of the goal of maintaining stable credit order, it also has had larger social appeal in Japan. As Shimamura Takayoshi points out, "the most important characteristic of the post-war financial system was that it was supposed to achieve two policy ideologies (seisaku rinen). The first was the 'financial community's contribution to high-speed economic growth' (kōdō seichō e no kin'yū teki kiyo), and the second one was the maintenance of the stable credit order."\(^{117}\)

Of course, the Japanese government has been deeply involved in the implementation of this social goal; it has been protecting commercial banks, of which the principle's metaphor was the

"convoy fleet system" or "convoy management" (gōsō sendan hōshiki). The idea of the metaphor is that banks are controlled and protected by the administrative guidance of the MOF and the BOJ. This control and protection was so severe that it is called over-protective administration (kahōgō gyōsei), over-protective to the extent that even banks' "lifting and putting down of chopsticks has been controlled" (hashi no age oroshi ni made kainyū). The core of the control was the limitation of competition through differentiating interest rates. As Suzuki Yoshio writes:

Interest rate controls -- and particularly controls on deposit rates -- prevented destructive competition. The absence of destructive competition had an important role in stabilizing the business atmosphere for the financial intermediaries that carried the burden of indirect financing.

But maintaining the 'credit order' (shin'yō jitsujō no iji) is not simply the function of MOF and BOJ; it has been a long social ideology to which the whole financial community is committed. The Japanese financial community, a collective group of private businesses, has been an organic part of the financial system commissioned to achieve a national objective called the stable credit order. Integrated into an organic system and

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138 In this metaphor, the convoy refers to the protective Ministry of Finance, and the protected fleet consists of commercial banks (that are implied to be mobilized for the mission of supplying funds for industrial corporations).


commissioned with national objectives, Japanese commercial banks are bound by their 'public' characteristics (kōkyōsei). Even though Japanese parlance is usually overloaded with grandeur and analogy, the notion of the nation (kokka) never fails to get mentioned in important business plans. For instance, the communiqué announcing the merger of Mitsui and Dai-ichi Banks (into Mitsui Bank) on 28 December 1942 defined the primary objective of the merger as:

Facing an unprecedented emergency situation of the country, [the banks] ought not to cling to old habits but to recreate themselves to fulfill the missions assigned to commercial banks by conforming to the government policy of the financial restructuring.\textsuperscript{141}

Banks in other economies may all have some degree of public nature, yet what is at issue in the Japanese case is that the notion of public nature represents a framework of the market relationships formed and shared by the elite of both public and private sectors. The puzzling notion of the 'public-ness' of private economic affairs called Japanese banking is explained by Royama Shoichi, a financial economist, in the following words:

The public nature of the banking industry (ginkōgyō) can be summarized into the following three aspects. First, banks serve individuals as creditors who are different from corporations fundamentally. Second, banks are crucial to the credit order of the country as they are connected to a complex network of credit organizations. For this reason, bankruptcies of banks must be prevented. Third, banks have particular importance (tokuni jūyōsei) with their national-economic function (kokumin keizai teki kinō) of supplying

\textsuperscript{141}Cited in S. Goto, 1990, p. 252.
industrial funds.142

The 'crucial role' of commercial banks in maintaining the stable credit order and their 'national-economic' function seems to blend in a broader and more progressive definition of the credit order. Tatsumi Ken-ichi suggests that the credit order may mean "that there is no abrupt changes in the proportions of multiple channels that link between ultimate creditors and ultimate debtors." 144 Tatsumi's interpretation shifts the role of commercial banks from a macroeconomic issue of the stable credit conditions to a microeconomic issue of stable supplies of industrial funds. This is what is meant by the 'financial community's contribution to high-speed economic growth'.

In order to fulfill the public goal, public and private financial institutions and elites have been working together. Whether such cooperation has been motivated by voluntary choice or by sanction is a debate to be pursued. What is clear, however, is that decision makers of Japanese private financial institutions have been conditioned to conform to the norm of stability in industrial financing. Cooperation among rival banks is to be interpreted against this historical background.

In relation to the public nature of banking corporations, the role of the managing institutions including industry


association must be noted as well. In order for works to be shared in an orderly way, opportunity sharing needs to be managed. As each member participating in collaborative action may have different interests, there is a need for the 'managing body' (matome yaku) that coordinates and administers opportunity sharing. Management of competition is usually delegated to one single organization, which could be either public or private, and formal or informal. The formal organization is more often than not a special legal-person (invariably zaidan hōjin) organization or a quasi-public body to be set up to perform a specific function. Invariably there is also a private corporation that works with the public managing institutions to facilitate opportunity sharing.

In cooperative financing, the managing bank’s primary goal is to gather commercial banks to join the syndicate. Another important role for the managing bank is to reflect upon the will or policy direction of government. In this sense, both the government and industrial corporations depend on the managing bank’s judgements. As discussed in this chapter, the Industrial Bank of Japan (IBJ) assumed the role of managing bank (kanji ginkō) for many industrial corporations even before World War II.

Of no less importance than the formal organizations were the informal, consultative bodies called kondankai (literally discussion or consultation meeting). The most well known example is the consultation at the Federation of Bankers Associations
(Zengingyō). At this Federation, informal consultation between the government and the banking industry and between rival banks had laid the foundation for cooperative financing in Japan.

B. The Power of Commercial Banks and their Managers

A key factor that enables the order in the Japanese financial world is the power residing in commercial banks. The crucial role of Japanese banks, and their power, in industrial financing is important for the understanding of not only financial institutions but also industrial development in Japan. The modern Japanese banking system is believed to have taken on its form around 1910.\(^{144}\) In shaping the modern form of the financial system, a key problem was how to mobilize public savings for the financing of modern corporations. Modernization of industrial financing was a process of replacing "informal" (that is, un-institutionalized) credits as source of industrial funds with formal bank credits. According to Teranishi's investigation, in 1932, the "large corporations" (of assets larger than 5 million yen) had depended on informal credits (60 percent) more than on bank credits (40 percent).\(^{145}\)

\(^{144}\)Teranishi Juro reports that there were only four banks in 1874. At its peak, the number grew to 2,334 banks in 1901 (Teranishi, 1991, p. 118).

\(^{145}\)Ibid., p. 120.
The 1920s was a turbulent time in the Japan's financial history. Going through a series of recessions, both large and small banks were subject to the movement of mergers and acquisitions (ōgata-ka). As such, second- and third-tier banks were subsumed into large banks. To cope with these hostile waves of recessions, the Japanese government promulgated a series of laws in finance. Among the above laws, the pivotal one was the 1927 Banking Law which stipulated two crucial rules: (1) that the banks with the paid-up capital of less than one million

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146 Large commercial banks had been able, with much difficulty, to manage to meet the funding needs from the industrial sector, mostly due to mergers and acquisitions. The recession of 1901 served as a turning point from the decentralization to centralization of private industrial finance. In that year, funds were withdrawn from small and medium-sized banks and deposited in large commercial banks. In this sense, centralization of the financial structure was due less to strategic decisions of banks than to the reaction to the stormy market situation.

147 Following the 1901 recession, another series of recessions hit the Japanese economy in 1920 (the "post-war reaction recession"), 1927 (the "financial recession"), and 1939 (the "Showa recession").

148 A net result of this 'division of labor' in financing was the emergence of dual structure consisting of the advanced industrial sector and the backward sector. The division was made not only between advanced and underdeveloped industrial sectors but also between national-scale commercial banks (futsū ginkō) and the local banks.

149 Major ones were:

1915 Mutual Fund (mūjin) Business Law
1921 Saving Banking Law
1922 Trust Banking and Business Law
1923 Industrial Union Fund Law
1927 Banking Law

A major goal of these pieces of legislation was to assign different kinds of financial institutions to different industries or sectors.
yen not be allowed to form limited-liability corporations; and (2) that the banks not be allowed to do non-banking businesses. As the final outcome of historical accident and owing to remedying legislation, the concentration of financial capital was completed. The dominance of bank credits over informal credit was formed from the late 1930s in the course of war mobilization. This modern form of savings mobilization (in the banking sector) was completed during the post-war years.

It is important to note that commercial banks have gradually grown to become the champions of mobilization of funds available in the household sector. Commercial banks' dominance over other forms of financial institutions (particularly securities houses) is the core of the Japanese political economy. As discussed earlier, the most important characteristic of national money flow in Japan, as seen from the savers's angle (i.e., the household sector's investment), is the gradual expansion of the demand deposit category (which constitutes intermediate financing) and the gradual fall of the securities category (which constitutes direct financing). It is particularly interesting for us to note that the change of the superior position between the demand deposit category and the securities category had taken place in the 1930s, the period of war mobilization. Even within the decade of 1931-1940, particularly in the year 1936 (in which the Sino-Japanese War had broken out) was a turning point, which was

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The number of commercial banks decreased from 1,326 to 683 between 1920 and 1930 (Takashima, 1976, p. 27).
followed by a uninterrupted, irreversible process of the growing dominance of intermediate financing over direct financing (at least up to the "internationalization" of the Japanese financial system in the mid-1970s).\textsuperscript{151}

The large banks became aloof and exclusive toward lesser banks and securities firms. It was a form of elitism in forming syndicates for corporate bonds underwriting. This development is particularly meaningful in the context of this study because it squarely rejects the belief that the motivation for participation in the cooperative arrangement is to reduce risk. The new tendency simply had nothing to do with risk in underwriting corporate bonds. Shimura Ka-ichi describes this tendency:

\textit{Not only for enterprise bonds (jigyōsai) but also for local bonds and debentures, the formation of underwriting syndicates tended to be fixed entering the Showa period. The tendency was particularly strong for the bonds of first-class companies (ichiryui kaisha sai) ... and thus it became to be almost impossible to enter the underwriting syndicates for such companies.}\textsuperscript{152}

As a result, securities companies had no choice but to settle for memberships -- through keen competition -- in underwriting syndicates for second- and third-rate companies.\textsuperscript{153} This explains the emerging dominance of large commercial and trust banks in the securities businesses, an important irony of finance.

\textsuperscript{151}It is still subject to debate whether the dominance of indirect financing came to a halt with the internationalization (kokusaika) and liberalization (jiyūka) of finance.

\textsuperscript{152}Shimura, 1978, p. 62.

\textsuperscript{153}Ibid.
in Japan.

The increase of the banks' power was reflected on the deepening of financial intermediation. The role of bonds and stocks increased from the early 1920s. But it is important to note that the increase in the share of bonds and stocks in industrial financing does not mean the increase in the power of securities firms: bonds and stocks were underwritten and floated by commercial banks in the form of underwriting syndication, in which securities firms had assumed only minor positions. This dominant role of banks in securities underwriting explains why the share of bank loans was small in the pre-war years. Another trend we should note is the overall minority of self-financing (which is less than one third of the total) in funding industrial corporations.\textsuperscript{154} The deepening of financial intermediation was a translation of another important development: the shift in the function of commercial banks from commercial banking (shōgyō kin'yū) to enterprise banking (jigyō kin'yū). Here the term 'enterprise' (jigyō) deserves some explanation.

The enterprise does not refer to any enterprise in the lexical sense; it refers to the 'national enterprise' specified by the law for the purpose of facilitating the military invasion of Manchuria and Asia. The Automobile Manufacturing Enterprise

\textsuperscript{154}In the post-war period, indirect financing (particularly bank loans) became the dominant source of industrial financing.
Law was the first of a series of enterprise laws.\textsuperscript{155} The automobile was the key tool for the expansion of the Imperial Army into Manchuria. Even though the Army's interest in developing the domestic automobile industry met with opposition from the Ministry of Commerce and Industry (MCI), which had to be conscious of international trade relations, "The army persisted, however, until the cabinet adopted a set of measures in 1935 that military officers drafted and incorporated into the May 1936 automobile manufacturing enterprise law."\textsuperscript{156} As Cusumano writes, in addition to various promotional measures such as tax benefits, "MCI also arranged exemptions to the commercial code to facilitate issues of new shares and bonds to raise capital."\textsuperscript{157}

Regardless of whether the shift was chosen or imposed, commercial banks became even closer to large industrial corporations and so much farther from small and medium-sized

\textsuperscript{155}The enterprise laws were (year of enactment):

- The Petroleum Manufacturing Enterprise Law (1934)
- The Automobile Manufacturing Enterprise Law (1936)
- The Artificial Petroleum Enterprise Law (1937)
- The Steel Enterprise Law (1937)
- The Machine Tool Enterprise Law (1938)
- The Aircraft Manufacturing Enterprise Law (1938)
- The Shipbuilding Enterprise Law (1939)
- The Light Metal Manufacturing Enterprise Law (1939)
- The Organic Synthesis Enterprise Law (1940)
- The Important Machines Manufacturing Enterprise Law (1941).

For a general description of the background of these laws, see C. Johnson, 1982, Chapter 4, pp. 116-156.

\textsuperscript{156}Cusumano, 1985, p. 17.

\textsuperscript{157}Ibid., p. 17. For the role of the Aircraft Manufacturing Enterprise Law, see Samuels, 1994, pp. 122-3.
firms and households. A Fuji Bank history book reports on what a loan officer had to say about the shift from retail banking to enterprise banking in 1936:

From now on, we have to make efforts to assist industrial corporations that are promising or under innovation by increasing loans for them. For such long-term industrial loans, we have to make more investments in research and training.

This was a very early but official signal from the banking industry to accept the undertaking of funding industrial corporations as part of their mission.

C. The Norm of Inter-Bank Cooperation

In performing this important public role, competition among banks has been regulated and managed. The institution of "cooperative financing" maintained through syndicates (shidan) is to be understood in this context. Unlike the syndicates found occasionally in other advanced economies, which are formed and maintained on the project-by-project, ad hoc basis, Japanese bank syndicates, once formed, become quasi-permanent historical

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158 The shift from retail banking to project banking brought about another unplanned change in the Japanese markets. The wholesaling commercial organizations' (ton'ya) importance came to recede as the means of credit and payment increasingly consisted of cash and checks, which replaced traditional commercial drafts. Moreover, while industrial corporations demanded more and more loans from banks, wholesale houses became more remote from banks with surplus funds idling (Sanwa Ginkō Kabushiki Kaisha, 1954, pp. 100-1).

159 Fuji Ginkō Kabushiki Kaisha, 1982, p. 158.
institutions. For individual bank managers and decision makers, participating in and contributing to the shared goal has been more immediately important than carrying out their obligations as employees of for-profit organizations.

As for inter-bank relationships, there is a strong tradition for the thought that excessive competition is harmful for banks themselves and their carrying out of the mandate of stable supplies of industrial funds. In the new-year ceremony at the Tokyo Stock Exchange on January 30, 1928, Inoue, the BOJ president, pointed to two kinds of "unfair" (futōna) competition among banks. One was the competition to offer higher interest rates to attract more deposits; and the other was the competition to secure larger shares of the lending market:

The most harmful competition in the banking community is the competition to offer higher deposit rates. Even today when the rates agreed between banks are applied, the competition to absorb more deposits will not stop. It suggests that some banks are still trying to offer higher rates. This form of competition leaves banks with little extra capacity to manage their loans. Banks also compete for the opportunities to make loans to leading industrial corporations. Therefore the competition to offer higher deposit rates will cause serious problems in giving loans.\textsuperscript{160}

As in the industrial sector, competition among banks is directed at enlarging the market share rather than at enlarging profits and dividends. One fundamental drive behind share competition is a fundamental shortage of industrial funds. When industrial funds were in perpetual shortage, as a director at

\textsuperscript{160}Cited in Takahashi, 1955, pp. 817-8.
Fuji Bank puts it, "lending itself meant profit." This does not mean, however, that bank loans are made on the basis of inter-bank competition. While bank loans have been sought after by industrial corporations, banks have not based their loan decisions on the discrimination between profit opportunities with one debtor or another.

A director of Dai-ichi Kangyō Bank believes that contributing to the society by financially supporting and fostering industrial corporations is the "public mandate" (kōteki shimei) of the bank, and thus banks should restrain from competition for the sake of their own achievement which is usually expressed in numerical terms. A managing director of Daiwa Bank echoes this observation by noting that an unstable relationship between the bank and the industrial corporation will prevent the bank from supporting the industrial corporation effectively; this problem is believed to be the fault of both sides.

As I have discussed in this chapter, there are a set of historically formed conditions that facilitate, or almost enforce, cooperation among rival banks. These conditions, not found in other countries, are crucial in understanding the nature of economic organization and behavior in Japan.

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161 Interview, Director, Fuji Bank, Tokyo, 18 July 1995.
162 Reply to the Roh Questionnaire, January 1995.
The most important condition seems to be that cooperative financing was a historical product of mobilization at the national level. Before World War II, the goal of mobilization was war preparation. Then, in the post-war period, the goal became economic recovery and growth. Throughout these periods, however, there remained a prototype for cooperative financing. This prototype took the form of syndication arranged by rival commercial banks under the leadership of the managing bank. The prototype was fully designed around 1937.

Another important condition for the continuation of cooperative financing was the dominant role of financial intermediaries, particularly the large-scale, nationally-operating commercial banks called "city banks." Unlike securities firms that form a link directly between individuals and households as savers and industrial corporations as money users (direct financing), industrial financing through intermediaries (indirect financing) creates room for coordination and control by the intermediaries themselves or by government agencies that oversee the intermediaries. In a long tradition of predominance of indirect financing over direct financing, Japanese banks have played important roles in feeding money to industrial corporations.

More consistent than other factors, however, was the "public nature" of banking businesses and the bank managers' awareness of the mandate that banks should contribute to industrial development by maintaining a stable supply of industrial funds.
From the banking operational perspective, this means that Japanese banks have been emphasizing "enterprise financing" (jigyō kin'yu), over other areas such as consumer or retail banking.

Financial syndication still continues although some contend that the nature of the Japanese financial system has changed considerably since the Oil Crisis of 1973 or the Plaza Accord of 1985, leading to liberalization and internationalization of finance in Japan. De facto or "implicit" financial syndication still continues with its pre-war and post-war characteristics hardly changed.164

164For the notions of de facto or 'implicit' syndication, see Horiuchi, 1994, pp. 284-5.
CHAPTER SIX
OPPORTUNITY SHARING IN RESEARCH, DEVELOPMENT, AND PRODUCTION:
THE CASE OF THE AEROSPACE INDUSTRY

It sounds rather ironical that a leading Japanese newspaper likened the division of the Japanese applications satellite market -- in numerical portions to be taken by three domestic manufacturers -- to the "happy ending" brought about by the "divine wind" (kamikaze).¹ This time, the invasion was the American pressure (gaiatsu) under the Super 301 Omnibus Trade clause in 1990, and the happy ending was the coordination of market divisions in the aerospace industry prompted by the pressure.² This "happy ending" was not merely conjecture, but a fair description of new developments. As a Mitsubishi Electric Co. (MELCO hereafter) manager recognized, it was from 1990 that the leading three companies -- MELCO, NEC, Toshiba -- came to have a shared understanding that the applications satellite businesses would be divided among three firms with the rough ratio of 4: 3: 3.³ This division of the market into numerical portions was a dramatic revelation of a broader phenomenon of

¹Nihon Keizai Shimbun, 7 April 1990. The divine wind is a Japanese analogy referring to the storms that saved feudal Japan from the Mongolian invasions in 1274 and 1281.

²Nikkan Kōgyō Shimbun, 5 June 1993.

³Interview, Senior Manager, Space Communications Division, Mitsubishi Electric Co., Tokyo, 18 August 1992.
opportunity sharing going on in the Japanese industrial community.

The foreign pressure brought about by the Super 301 negotiation led to another important development in the opportunity sharing among rival Japanese aerospace firms. The incident marked a great turning point in the organization of the satellite industry, from opportunity sharing at the industry-level to the project-level. Indeed, the major satellites whose procurement decisions were affected by the Super 301 controversy -- an engineering test satellite (ETS-VI), a communications satellite (CS-IV), and a broadcasting satellite (BS-4) -- were all developed jointly among MELCO, NEC, and Toshiba. A subsequent engineering test satellite (ETS-VII) would be also made by the joint force of the three firms with Toshiba as the system integrator. The project-level opportunity sharing has also been manifested in the launch vehicle industry. A series of the Japanese launch vehicles have been built by the concerted efforts of competing corporations such as Mitsubishi Heavy Industry (MHI hereafter), Ishikawajima-Harima Heavy Industry (IHI hereafter), and Nissan Motors.

Today, the major players in the launch vehicle area are MHI, Nissan Motors, IHI, and, to some extent, Kawasaki Heavy Industry Co. (KHI). The launch vehicle currently in use is called the H-II rocket, which was first launched on February 4, 1994. All

*Nikkan Kōgyō Shimbun, 5 June 1990.*
parts of the H-II rocket are "100%" domestically manufactured. It is a large-scale rocket that can launch a payload of 2,000 kilograms. The H-II consists of the following vertical stages:

<table>
<thead>
<tr>
<th>stage</th>
<th>engine</th>
<th>maker</th>
</tr>
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<tbody>
<tr>
<td>first stage</td>
<td>liquid engine (LE-7)</td>
<td>MHI</td>
</tr>
<tr>
<td>second stage</td>
<td>liquid engine (LE-5A)</td>
<td>MHI</td>
</tr>
<tr>
<td>booster</td>
<td>solid engine</td>
<td>Nissan Motors</td>
</tr>
<tr>
<td>liquid propellant</td>
<td>supply systems</td>
<td>IHI.</td>
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</tbody>
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Large heavy-machinery firms that are as competitive as MHI and IHI have only a minimal presence in this industry. For instance, Fuji Heavy Industries, Ltd. (FHI) supplies only electric power distributors for the H-II rockets. Even though KHI actually has a larger share of the work because it is in charge of the payload faring for H-II rocket and rocket launch facilities, it has not been a consistent participant in the launch vehicle industry.°

The applications satellite industry consists of three major segments: geomeeteorological satellites (GMS), communications satellites (CS), and broadcasting satellites (BS). The applications satellite industry provides a good opportunity to study the logic of opportunity sharing because the industry is

°There are two forms of rocket propulsion in terms of the propellant to be used. In what follows, the rockets which use engines burning liquid propellants (e.g. hydro-oxygen and hydro-nitrogen) (i.e., "liquid engines) will be referred to as "liquid rockets." Likewise, the rockets using solid-propellant engines ("solid engines") will be called as "solid rockets."

°Faring is a secondary structure of the rocket which constitutes the outer cover of the tip compartment housing the payload.
basically evenly divided between three major manufacturers:

GMS: NEC
CS: MELCO
BS: Toshiba.

Why do these firms share such opportunities? In this chapter, I test the hypothesis of state activism with a view to demonstrate that the norm conformity hypothesis is a more immediate and effective explanation. In the previous chapter, I examined the case study of cooperative financing among rival banking corporations. In doing so, I demonstrated that the most important determinant of the opportunity sharing among banks was the norm of cooperation shared by the banks' managers. The norm of inter-bank cooperation that the managers share is inspired by the traditional ideology that commercial banks' prime mandate lies in safeguarding stable supplies of funds to industrial corporations. The norm is also embodied in historical precedents of loan syndication formed against the background of fund mobilization for national purposes. Likewise, norm conformity will prove most effective in explaining opportunity sharing among industrial corporations in this case study of aerospace research, development, and production. The ideology that renders the basis of the norms in this case study is the mastery of frontier technologies.
I. EXPLAINING OPPORTUNITY SHARING IN THE STRATEGIC INDUSTRIES

As I discussed in Chapter 1, this case study will test the state activism hypothesis in the main. Before launching on the hypothesis testing, economic explanations will be discussed in order to augment the validity of my argument. As to the question of why rival corporations share the opportunities that could otherwise be exclusively pursued, a most commonsensical explanation would be that such sharing action is in the interest of the sharing actors. Japanese corporations no doubt pursue interests as long as they are private-sector organizations. But what are the interests the Japanese firms pursue in aerospace businesses? The best measure of the firm’s interest is the operating profit, which translates into the dividend for shareholders. Did the Japanese firms engaged in the aerospace businesses decide to enter the industry to make profits? Logically, the answer would be affirmative because they would not seek to lose money. As a MHI manager states, however, profit or dividend maximization, a creed for Western corporations, does not seem to be a primary goal or concern for Japanese aerospace firms:

Aerospace businesses now amount to dozens of billions of yen at Mitsubishi Heavy Industry. But, if asked whether we make profits or not, we are not definitely making profits (kessite moukaranai)... We continue to research on aerospace technologies because we like it... But, even though we work for technological development of the nation, we are a private firm... If our aerospace businesses continue to stay in red, we cannot really continue... I
hope you [STA officials] understand our situation. In developing applications satellites, both MELCO and NEC claim to be patriotic enough not to seek only profit. When Profs. Itokawa and Takagi, two pioneers of the Japanese aerospace industry, advised NEC to enter the business of rocket electronic equipment in 1955, the top manager then responded positively and decided to enter the new market "from the national perspective and therefore without regard to profit or loss (sontoku wo betsu ni shite)." Johnson-Free describes this practice in a unique way:

The government will...offer a project, only to be told by industry that it cannot be done for that price. The response is often take-it-or-leave it: the company can take the funds offered and supplement it with their own funds to develop or improve technology, while reaping the public relations benefit of the aerospace affiliation, or say no and let the money go to another firm -- possibly foreign. In that way, Japanese aerospace companies do not really

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7Discussion with the Manager of Space Technologies, Mitsubishi Heavy Ind. (Nagoya) at STA’s National Institute of Science and Technology (NISTEP) in July, 1992.

8Interview, former IHI director, Tokyo, 31 August 1992.

9Nihon Denki Kabushiki Kaisha, 1987, p.2 and p.8. In delivering the telemeter, for another instance, NEC suggested a cost of 500,000 yen, but Prof. Takagi of Tōdai demanded to settle for 150,000 yen, which NEC accepted (Ibid., p. 10).
compete amongst themselves."\textsuperscript{10}

Some may argue that Japanese corporations have long-term perspectives on profit or interest for whatever reasons. But the key economic notions of profits and returns on investment all presume foreseeable time spans of calculation. In other words, they cannot be discussed in the context of 'stretched' rationality in which a firm would aim at reaping profits in an unforeseeable future because the modern joint-stock corporations are not established on such an experiment.

As in the case of cooperative financing arranged by rival banks, one may consider the explanation for opportunity sharing among industrial corporations in aerospace businesses is, again, risk sharing. Risk sharing has been widely discussed as the primary motivation for competing firms to partake in collaborative research or joint development ventures. Risk sharing is no doubt an important factor for joint aerospace projects such as the building of launch vehicles as they require large amounts of investment. But, even though there are huge risks in developing launch vehicles or fighter aircraft, for instance, American rival corporations (e.g. McDonnell Douglas, Boeing, and General Dynamics) do not form joint projects or take part in corsotia among themselves.\textsuperscript{11} European aerospace firms form joint ventures and consortia, but across countries, not

\textsuperscript{10} Johnson-Freese, 1993, p. 77.

\textsuperscript{11} Exceptional cases are found in the war-time period as noted in Chapter 2.
within individual countries. Therefore, Japanese joint ventures and consortia cannot be explained solely by the account of risk sharing. In that sense, when it comes to large-scale R&D projects in the strategic industries, risk sharing might have to be considered as a parameter rather than a variable because it does not explain cross-national variation. Another important aspect of managed competition that is not (and cannot be) addressed by the risk-sharing theory is the division and sharing of a market by rival corporations. Dividing and retaining a segment of a market has little to do with risk sharing.

A more powerful explanation about collaboration among rival firms engaged in strategic industries is offered from the vantage point of the government’s control (or at least coordination) of market entry and inter-firm relationships. The presence of the government indeed seems ubiquitous in Japan’s aerospace programs. The government is the single largest procurer of aerospace systems and vehicles. In purchasing them, the government agencies invite private corporations to partake in the aerospace business and reward them with work. Government agencies also organize or participate in research and development activities.

As for the role of the Japanese government that affects the nature of inter-firm relationship, the most widely cited activity is the creation of cartels through administrative guidance. For instance, investment coordination by MITI’s administrative guidance took place in the petrochemical industry in the mid-
1960s.\textsuperscript{12} But the cartels formed through administrative guidance are concentrated in the 1950s and 1960s. More importantly, these cartels were intended to coordinate the 'industrial structure', and not the style of the organization in the industry such as inter-firm relationships. Restriction of competition through cartels during this period was, as Nakamura writes:

never acted as a general restriction on competitive conditions in the markets formed after the war. On the contrary, secure in the knowledge that relief was available, firms adopted bold strategies and competition became all the more vigorous.\textsuperscript{13}

A more important source of government control which would have direct impacts on the content of market organization is the industry-specific manufacturing laws (seizō jigyōhō). During the pre-war period, these laws had significant influences on industrial organization as they granted licenses to do certain businesses. Toyota Motors and Nissan Motors were licensed in 1939 according to the 1936 Automobile Manufacturing Industry Law.\textsuperscript{14} For another instance, the Aircraft Manufacturing Industry Law of 1938 declared that:

No firm could enter the aircraft manufacturing business without state permission, and then only according to a business plan approved by the Aircraft Technology Committee.\textsuperscript{15}

\textsuperscript{12}As to discussion on cartels by administrative guidance as a determinant of market industry in the strategic industries, see, for example, C. Johnson, 1982, 241-74; Hiwatari, 1991.

\textsuperscript{13}T. Nakamura, 1981, p. 17,

\textsuperscript{14}Cusumano, 1985, p. 17; C. Johnson, 1982, p. 132.

\textsuperscript{15}Samuels, 1994, p. 122.
But these manufacturing industry laws were abolished in 1946 by the GHQ. For instance, a new Aircraft Industry Development Law of 1954 enabled MITI only to:

use fiscal measures, including depreciation benefits and subsidies, guidance to coordinate entrepreneurial activity, and manage the distribution of the work and technological diffusion in the sector.16

The managing of the "distribution of the work" as noted above by Samuels did not involve specific actions to regulate market entries and exits or to divide the work into parts and distribute them to specific firms. For instance, the creation of the "jet engine study group" (among key heavy manufacturers and other firms) in 1953 to develop jet engines at MITI's supervision did not include controls on entry or exit. On the contrary, exits from the aeroengine business were virtually out of MITI's control. As Samuels noted, "other firms departed the aeroengine businesses, leaving Ishikawajima by default, if not design, Japan's 'national champion'. . . IHI was not MITI's first choice: MHI was offered leadership in engine design and development but refused.17

The Japanese government can affect, indirectly if all, market entries and the degree of competition in a given market by structuring it, but not by explicitly deciding which firm does what business. Of course, the Imperial Navy or Army in the pre-war period could appoint specific firms for specific procurement

16Ibid., p.204; emphasis added.
17Ibid., p. 208.
works. And this pre-war tradition of the close affinity between the government and private businesses continues as an invisible institution in the form of the decisional norms. But this historical legacy does not mean that the government determines the relationships among rival corporations. The aerospace industry is a strategic, if not representative or exemplary, manufacturing industry in Japan. If government intervention works even at the micro-economic level with regard to inter-firm relationship, the aerospace industry should be a first case in which such working ought to be manifest. If it fails to do so, the explanation of managed competition based on government activism comes to lose its power in its most familiar terrain.

Then what makes these firms partake in the aerospace business? And what make them share sought-after opportunities? In what follows, I shall answer these questions in terms of market entries and opportunity sharing. My argument is that the conditions of agency capitalism are immediate determinants. An exemplary statement that supports my view is offered by a former president of MELCO with regard to the firm's decision to entry the rocket industry. MELCO eventually functioned as a hothouse for the applications satellite technologies. In the mid-1950s, MELCO was standing at a crossroads leading into two different business directions. One was the computer industry that was already booming, and the other was the guided missile industry. Even though MELCO did eventually join the computer industry, the
choice at that specific point in time had to be made between the venturing into guided missile or the computer development. At this juncture, the company president, Seki Yoshinaga, an employed manager, finally decided that the guided missile was the major business to push. The following was the reason he offered to the board of directors, again a group of employed managers:

I can see that computers will become a key industry in the future. But the guided missile business, which is the extension of the radio business [over which the Mitsubishi group maintained superiority in the pre-war years], is the one which Mitsubishi Electric Corp. should look after by all means. I want you to allow me to make this decision my own way this time. Properly speaking, the guided missile industry must be promoted by government, but our firm will do the business as government is not under the circumstance to do so.

Considering that MELCO's directors are basically a group of Mitsubishi employees who have risen through the ranks and that he did not have to consult with shareholders or outside directors, Mr. Seki had enormous decision-making latitude.

In what follows, I will generalize the logic and spirit exemplified by the above MELCO episode. Discussion will be made in two key sectors (or markets) of the aerospace industry: the launch vehicle (or rocket) and the satellite. The applications satellite industry is discussed first mainly because it was introduced and developed first with the introduction of the guided missile in the early post-war period.

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18Seki later became the chair of the Sounding Rocket Technology Association of Keidanren.

II. A BRIEF REVIEW OF THE HISTORY OF AEROSPACE DEVELOPMENT IN JAPAN

In this section, a brief history of aerospace industry development is presented with a view to put the role of government in perspective. The entire process of aerospace development in which rival corporations formulated certain arrangements of opportunity sharing can be divided into the two periods. The first period covers the years from 1952 to 1969. The year 1952 represents the renaissance of the Japanese aircraft industry after a "seven-year gap" since 1945. With regard to aerospace programs, however, the very first official step in Japanese aerospace R&D was taken in July, 1955 with the establishment of the National Aeronautical Laboratory (Kōkū Gijutsu Kenkyūshō; NAL) under the ultimate direction of prime minister’s office. A small but significant event had taken place around this time. On August 6, 1955, Professor Itokawa Hideo of the University of Tokyo (Tōdai hereafter) succeeded in launching a small mock-up sounding rocket -- the "pencil rocket" of 23 centimeters long -- in Kokubunji, Tokyo. Even though it was small, the pencil rocket had an important implication: its success -- this launch had taken place only a month after the

20In May, 1956, then, the Science and Technology Agency was established, and NAL was moved to the jurisdiction of STA. In 1963, NAL came to have additional assignments in space technology research, now with a new name called National Aerospace Laboratory.

21Sounding means "any penetration of natural environment for observation or measurement" (Gunston, 1980, p. 463).
inauguration of NAL -- meant that aerospace research had already been of interest in academic circles.

While the atmosphere was maturing favorably for aerospace R&D through military missile projects, new developments in the Soviet Union had taken the Japanese industrial establishment by surprise. On October 4, 1957, the Soviet Union had succeeded in launching Sputnik-I, the first artificial satellite in the world. The Soviets' success was reported to have sent a shockwave through the Japanese policy community.22 Stimulated by this development, the National Space Activities Council (NSAC; Uchū Kaihatsu Shingikai) was created under the direction of prime minister's office in May, 1960,23 and "this marked the beginning of the formation of a policy-making structure for aerospace activities."24

On June 10, 1960, Prime Minister Kishi Nobusuke issued official requests to NSAC for consultation on two issues: (1) the basic policy for aerospace development (uchū kaihatsu suishin kihon hōsaku) and (2) promotion of space science and technology for the fiscal year of 1961. The reports that followed these consultation requests were to become basic frameworks for policy making in national aerospace matters. The report to the Prime

22Chiku Takemi notes that the Japanese leadership expressed considerable apprehension for being backward in the space race (Chiku, 1992). It is also noteworthy here that the National Aeronautics and Space Administration (NASA) of the United States was set up on 1 October 1958.


Minister on the second issue was delivered within four months, on 3 October 1960.\textsuperscript{25} The report suggested five areas for aerospace science and technology to be promoted: (a) aerospace science; (b) observation rockets; (c) measuring and observation equipment; (d) aerospace communications; and (e) practical research in the related industries.\textsuperscript{26}

The report on the second consultation request on the basic aerospace development policy was delivered on 11 May 1962, about two years after the request had been made. In the report, NSAC addressed three basic principles of aerospace development: (a) autonomy (jishūsei); (b) openness in principle; and (c)

\textsuperscript{25}Even though it was made rather promptly, the report on the second issue was the first official document that revealed the goals and commitments of the Japanese space community in its formative stage. The statement showed a strong commitment to space development. But the commitment was expressed in an ambivalent way, suggesting both autonomy and international cooperation as modes of future space technological development. The report stated that the basic direction was as follows:

In light of R&D achievements in our country to date and international situations, space science and technology ought to be promoted rapidly. In doing so, developments ought to be based on our autonomous plans (tokuji teki na keikaku), yet together with considerations of the importance of international cooperation.

\textsuperscript{26}NSAC then sent a survey mission to Europe and the United States in 1961. After the return of the survey mission, more industry representatives and high-ranking bureaucrats were invited to the NSAC as members. "The involvement of more representatives from industry and higher ranking government officials indicates that the space activities were becoming national projects, increasing their significance both in the government and in the industry" (Chiku, 1992, p. 11).
international cooperation.²⁷ Beside several technical matters, the second report had made an important point regarding aerospace R&D administration.²⁸ For the sake of "comprehensive and efficient administration of aerospace development," NSAC recommended that a central consultative body (chūgakuteki shingi kikan) be instituted that would perform investigations, deliberations, and recommendations on aerospace matters on a full-time basis and that certain administrative-organizational reforms were needed for that purpose (tekitōna kyōsei kikō wo seibi).

This "administrative organization" was to embody an important movement in the Japanese aerospace community that had been already taking place 'under the surface of the water' (suimenka) in Japanese parlance. The movement was about

²⁷Yet the NSAC's 1960 report was unclear about how to coordinate two different ways of 'autonomy' and 'international cooperation' in space technology development. As we shall see later, the 1962 report was in line with the "design" conceived by Nakasone Yasuhiro, who was a key figure behind the drive for defense and space technology development. One piece of evidence which suggests such an interpretation is that the above three "basic principles" are identical to those of Nakasone's policy for the promotion of the nuclear energy industry. It is no coincidence that only space and nuclear energy industries, among many 'strategic' ones, belong to the jurisdiction of STA, of which the first minister was Nakasone.

²⁸As for the areas to be promoted, the second report of 1962 suggested three areas that needed to receive concentrated attention and support. The three areas which were recommended to be promoted in the coming five years and the R&D budget estimates were:
  space science                      9 billion yen
  space communications and measuring 5 billion yen
  space vehicle (hishōtai)          17 billion yen.

This suggestion reflected some modifications from the first report.
"unifying" (ipponka or ichigenka) national aerospace development efforts into one center. By that time the division of the Japanese aerospace community had become a reality. Indeed it was divided into two "camps": science and applications.\textsuperscript{29} The "science camp" (kagaku kyampu) mainly consisted of researchers at Tōdai and corporations which sell equipment for rockets and satellites for scientific purposes.\textsuperscript{30} The "applications camp" (ōyō kyampu) referred to the establishment of government agencies and a vast group of manufacturing firms that were interested in developing rockets and satellites for practical purposes such as communications, broadcasting, and earth and geometeorological surveys.\textsuperscript{31} The move toward the unification was to create the "NASA of Japan."\textsuperscript{32}

\textsuperscript{29}Eberstadt (1989) classified these two camps in terms of how space research itself is understood. For the science camp, space research is the end in itself; but for the applications camp, it is only means (p. 17).

\textsuperscript{30}One may wonder how research activity can amount to that which deserves political and administrative attention at the national level, but in reality, the Todai team had a budget larger than the sum total of other space research budgets. At the beginning, for instance, the Tōdai space research team were able to spend some 2 billion yen, which was approximately two to three times as much as what NSDC had (Uchū Kaihatsu Jigyō Dan, 1989, p. 6).

\textsuperscript{31}The researchers of STA and the Radio Research Laboratories (Denpaken) of the Ministry of Posts and Telecommunications belonged to this camp.

\textsuperscript{32}By this time, it became clear that space R&D at the national level was to be staged on competitive soil, not only technologically but also politically. The early 1960s was a unique period in space development during which NSDC and Tōdai were engaged in a full "rocket-launching race" (uchiage gassen). Even though there was a strong movement to unify national space R&D efforts in favor of the applications camp, the Tōdai space research team continued to show better performances. In 1961, the Tōdai
It was reported on June 11, 1963 that NSAC was determined to launch purely Japanese satellites in five years. As for the propulsion technology, the report stated that "a comprehensive, long-term plan is necessary to advance the rocket technology so that large-scale rockets can be produced domestically for launching large payloads such as communications, meteorological, maritime, and earth-observation satellites."\(^3\) The third NSAC consultation report delivered to Prime Minister Ikeda Kazuhito on February 3, 1964 clearly emphasized the importance of the applications satellites and their launch vehicles.\(^4\) The 1964 Report became much clearer with reference to the restructuring of space research team opened its launching facility in Noshirö, Akita prefecture. In April 1963, it had started research on the "M (Mu) rocket" which would become a trend-setting launch vehicle using solid propellant. In December 1963, the Kagoshima Space Center was opened for Tōdai research and development. In July 1964, Tōdai had succeeded in launching the L-3 (Lambdā-3) rocket. By 1965, competition between the application and science camps took on more concrete forms. On the science camp, Tōdai announced a plan to develop full-fledged "science satellites" declaring an end to the experimental stage. On the other hand, the applications camp did not halt its progress either.

\(^3\)Nihon Keizai Shimbun, 11 June 1963.

\(^4\)For the coming five years, the report suggested six areas of development as major goals (jūten mokuhyō):

- development and production of artificial satellites;
- early development of rockets to launch applications satellites such as meteorological satellites;
- advancement of rocket technologies;
- development of space utilization technologies using other countries' satellites;
- promotion of space science research utilizing observation satellites; and
- development of observation and measuring equipments.
aerospace administration. It suggested that the National Space Development Center (Uchū Kaihatsu Suishin Honbu; NSDC) be instituted at the Science and Technology Agency (STA hereafter) and act as the center of diverse government agencies involved in aerospace development.

The "Proposal on the Long-Term Plan Concerning the Launching and Utilization of Artificial Satellites" of NSAC issued on August 3, 1966 was a confirmation of the latest trends in the community. The foremost characteristic of the report was that it gave a priority to applications satellites over science satellites. The proposal suggested that the target year for

First of all, the report acknowledged the reality of the division of national efforts between applied and scientific space research communities. Based upon this acknowledgement, it suggested that NSAC serve as "a unified forum" (tōichu no ba) until the unified administrative body would be formed in the future.

The report clearly named specific agencies responsible for different jurisdiction as follows:

MITI: guidance of related industries;
MPT: development of communications satellites;
MOT: meteorological and maritime satellites;
MOT and MOC: earth-observation satellites.

MPT, MOT, and MOC each stand for the Ministry of Posts and Telecommunications, the Ministry of Transportation, and the Ministry of Construction (NSAC, 1964, pp. 17-19). As for the restructuring of the so-called "science camp," the report suggested the "developmental dissolution" of the Tōdai's Institute of Industrial Sciences (Seisan Gijutsu Kenkyūshō; ISS) and the creation of the Institute of Space and Aeronautical Science (ISAS). ISS was the power house of space research at that time. One important source of Prof. Itokawa's leadership was his research experience in aerospace. The idea materialized in April, 1964 with the opening of ISAS, which was not independent yet from Tōdai.

The report recommended that two separate plans for applications satellites and science satellites were necessary for their development over the next five years. In laying out the
the first launch was to be within the year 1967. The NSAC's fourth (and last) report of December 20, 1967 delivered the confirmation that the rocket used for launching application satellites would be the N-series rocket that used a liquid-propellant engine.\textsuperscript{38} This was an official revelation of the much debated policy shift from the solid rocket to the liquid rocket, which will be discussed later.\textsuperscript{39}

Based on the final NSAC report, the Japanese government submitted the Space Activities Commission (SAC) Establishment Act (1968) and the National Space Development Agency (NASDA) Establishment Act (1969).\textsuperscript{40} In 1969, the National Space

\begin{quote}
"basic technological directions" (gijutsuteki kihon hōshin), the report spent more time on engineering test satellites (ETS hereafter) and applications satellites than on science satellites. With reference to science satellites, the use of the Mu Rocket was suggested as its system was developed by the Tōdai research team for the launching of science satellites.

\textsuperscript{38}The report entitled "the Basic Policy Concerning the Long-Term Plan and the Administrative System for Space Development" (uchū kaihatsu ni kan suru chōki keikaku oyobi taisei no taikō ni tsuite) also specified that science satellites would be launched by the M rocket.

\textsuperscript{39}The fourth NSAC report also offered a clear, unified view of the need to create a more powerful decision-making body that would support the unified space administrative organization. Furthermore, the fourth NSAC report called for the creation of a "development organization" (kaihatsu kikō) that would be responsible for developing satellites and rockets. The organization would be one in which "government, academia, and industry would unite and cooperate" (kan, gaku, min ga itchi kyōryoku shite) in developing satellites and rockets.

\textsuperscript{40}It is noted that the time was not favorable for creating a new agency because the Sato administration was reducing the number of agencies with the catch phrase of "one agency per ministry" to deal with stringent government finance (Chiku, 1992, p. 13).
Development Agency (NASDA) was also created.\textsuperscript{41} With the establishment of the SAC and NASDA, the aerospace industry in Japan had shifted from the formative, politically-plastic stage to a stable, administration-oriented one.\textsuperscript{42} It was in this context that the NASDA was even called the "execution army" (jisshi butai) for launching domestic applications satellites while the SAC was the "planning org'n" (keikaku kikan).

A pivotal development in the whole Japanese aerospace history took place in 1970. The SAC was convened and decided on a major national policy change in October, 1970: aborting the Q Rocket Plan under progress and launching into a totally new plan called the N Rocket Plan.\textsuperscript{43} The essence of this rather abrupt change was that the Q Rocket plan had to give way to a new plan to meet the practical needs for learning guidance technology (yūdō gijutsu). The Q Rocket itself was conceived as "a means to learn the guidance technology" (yūdō gijutsu shūtoku yō).\textsuperscript{44} The

\textsuperscript{41}In addition, in the same year, the Japanese government announced its first national plan for the space industry (Uchū Kaihatsu Keikaku). The same year Japanese Prime Minister Sato Eisaku and US President Johnson reached an agreement that the two countries would cooperate in space development.

\textsuperscript{42}See, for example, Asahi Shimbun, 13 May 1969.

\textsuperscript{43}The N Rocket Plan stood for two major technological changes: (1) adopting 3 phase engines to be developed domestically and (2) adopting the liquid-propellant system as the basic framework. The systems integration to be done by MHI was to copy and integrate the McDonnell Douglas's Thor-Delta 2914 (simply called Delta by NASA) rocket with the improved version of the Q rocket's third-stage (liquid) engine. Wells and Hastings (1991) write that the Thor-Delta 2914 was a "off-the-shelf" technology (p. 21). The rocket was also a derivative of the Vanguard military missile.

\textsuperscript{44}Uchū Kaihatsu Jigyō Dan, 1980, p. 31.

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decision to switch to a new plan called for a more important change in aerospace strategy; under the pressure from the future users of applications satellites such as the Ministry of Posts and Telecommunications (MPT) and the Nihon Hōsō Kyōkai (NHK), which will be elaborated upon later, the STA could not help but bend its commitment to domestic development and pave the way for the importation of foreign technologies.\footnote{Mainichi Shimbun, 15 October 1970.}

A major retreat from the commitment to the domestic development of the launch vehicle in 1970 that had materialized in the N Rocket Plan came to be repeated in 1974, now concerning satellites. Under the continuous pressure from NHK and the LDP's "communication tribe" (tsūshin bukai) members for early commencement of satellite services, the SAC had no choice but to allow the importation of foreign satellite technologies in its 1974 annual Space Development Plan. The action was taken in the name of giving "priority to economic merits" but was criticized as a "major retreat from the direction toward autonomous development" (jishū rosen no ohaba kōtai).\footnote{Mainichi Shimbun, 14 March 1974.}

A key aerospace policymaking group, the "Long-Term Vision Special Panel" (Chōki Bijon Tokubetsu Bukai), was established in 1975 in order to write long-term "visions."\footnote{Chiku interprets that it was prompted by the "need for projecting a comprehensive and long-term vision for future space activities with the time span of at least twenty-five years" (Chiku, 1992. p. 19). At this time, the SAC identified five "basic issues" to be dealt with by the Special Panel as follows: (1) re-}
Special Panel submitted the "Long-Term Vision Concerning the Space Development in Our Nation" to the SAC. Based on the Vision, the Fundamental Guidelines of Space Development Policy (Uchū Kaihatsu Seisaku Taikō) were made official in March, 1978. Like the Vision, however, the Fundamental Guidelines listed three general, abstract principles: (1) the balance between social needs and the national capability; (2) the securing of autonomous technology; and (3) the harmony with aerospace activities abroad.

The Fundamental Guideline was also doomed to be revised in 1982 in the face of the perpetual need for advanced US satellite technologies, particularly of NTT and NHK. Since then, the Fundamental Guidelines have been revised twice, in February, 1984 and in July, 1989. The three principles have survived both of

assessment of space development plans; (2) making the framework for assessing; (3) research and development of liquid-oxygen and liquid-nitrogen engines; (4) the definition of domestic production; and (5) the scope of space development in the future (Yato, 1983, pp. 202-3).

The "Vision" pointed out three major issues of the Japanese space policy making: (1) the outlook of space activities by the end of the century; (2) socio-economically desirable space activities for Japan; and (3) the feasibility of such activities.

Among these abstract principles, the second one deserves some careful scrutiny. As the Fundamental Guidelines clearly stated, the use of domestic products was not to be necessarily insisted on even though major parts and equipment should be procured domestically.

Uchū Kaihatsu Jigyō Dan, 1989, p. 42. In June 1982, Nakayama Taro, chair of LDP's Special Committee on Space Development demanded that the Guideline be revised so as to "speed up the development of rockets and satellites" (Nihon Keizai Shimbun, 17 June 1982).
these revisions. New concerns expressed in the revisions were the emphasis on commercialization of aerospace development activities and the new aspects of international co-operation. Unlike impressive technological achievement in the aerospace industry, public policies have been subject to criticism and expedient changes.

Within less than three decades between the establishment of NASDA in 1969 and today, more than forty applications satellites have been launched. All were launched by Japanese rockets except for three satellites which were launched by US rockets (See Table 6-1). This developmental history reveals a rough but clearly identifiable process in which the ratios of domestic development and production (kokusanka ritsu) have been increasing, from 53% to 100% in launch vehicles and from 11% to 100% in satellites. If this process can be called one of gradual technological assimilation, its perfection was reached in the early 1990s when both the launch vehicle (H-II rocket) and the applications satellite (ETS-VI) came to be manufactured entirely (hyaku pasento) with domestic parts and systems. In this remarkable process of technology importation, assimilation, and mastery, rival manufacturing firms have never failed in conforming to the norm of opportunity sharing. The two forms of opportunity sharing I characterized in the previous chapter -- industry-level sharing and project-level sharing -- have been maintained. As we shall see in what follows, however, the role of government does
<table>
<thead>
<tr>
<th>Date</th>
<th>Development (version #)</th>
<th>Development (method)</th>
<th>Japanese Application Satellites and Launch Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/1984</td>
<td>6#</td>
<td>NEC</td>
<td>GMS-III</td>
</tr>
<tr>
<td>8/1984</td>
<td>5#</td>
<td>Toshiba N-II #5</td>
<td>BS-IIa (zero momentum)</td>
</tr>
<tr>
<td>8/1983</td>
<td>4#</td>
<td>MELCO</td>
<td>CS-II b spin stability</td>
</tr>
<tr>
<td>2/1983</td>
<td>3#</td>
<td>MELCO</td>
<td>CS-II a spin stability</td>
</tr>
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<td>9/1982</td>
<td>6#</td>
<td>Toshiba N-I #6</td>
<td>ETS-III</td>
</tr>
<tr>
<td>8/1981</td>
<td>2#</td>
<td>NEC</td>
<td>GMS-II</td>
</tr>
<tr>
<td>6/1981</td>
<td>1#</td>
<td>MELCO</td>
<td>ETS-IV</td>
</tr>
<tr>
<td>2/1980</td>
<td></td>
<td>MELCO</td>
<td>ECS b spin stability</td>
</tr>
<tr>
<td>2/1979</td>
<td>4#</td>
<td>MELCO</td>
<td>ECS</td>
</tr>
<tr>
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<td>2#</td>
<td>MELCO</td>
<td>ISS</td>
</tr>
<tr>
<td>4/1978</td>
<td>0#</td>
<td>Delta 2914 #140 n/a</td>
<td>BS</td>
</tr>
<tr>
<td>12/1977</td>
<td>4#</td>
<td>MELCO</td>
<td>CS</td>
</tr>
<tr>
<td>7/1977</td>
<td>3#</td>
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<td>GMS</td>
</tr>
<tr>
<td>2/1977</td>
<td>2#</td>
<td>MELCO</td>
<td>ETS-II</td>
</tr>
<tr>
<td>2/1976</td>
<td>2#</td>
<td>MELCO</td>
<td>ISS</td>
</tr>
<tr>
<td>9/1975</td>
<td>1#</td>
<td>NEC</td>
<td>ETS-I</td>
</tr>
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(In order of launching)

Table 6-1
<table>
<thead>
<tr>
<th>Source: U.S. National Space Directory</th>
<th>Year</th>
<th>Launch Date</th>
<th>Toshima</th>
<th>NEC</th>
<th>H-II #4</th>
<th>Zero-moment (three-axes)</th>
<th>ABOS</th>
<th>GMS-V</th>
<th>Spin Stability</th>
<th>GMS-V</th>
<th>Spin Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1995</td>
<td>Winter</td>
<td>100%</td>
<td></td>
<td>H-II #4</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1994</td>
<td>Winter</td>
<td>100%</td>
<td></td>
<td>H-II #3</td>
<td>29%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1994</td>
<td>8/1994</td>
<td>100%</td>
<td></td>
<td>H-II #2</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1992</td>
<td>2/1992</td>
<td>96%</td>
<td></td>
<td>H-I #5</td>
<td>96%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1991</td>
<td>8/1991</td>
<td>56%</td>
<td></td>
<td>H-I #6</td>
<td>83%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1990</td>
<td>2/1990</td>
<td>84%</td>
<td></td>
<td>H-I #3</td>
<td>83%</td>
<td></td>
<td></td>
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<td>2/1990</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1989</td>
<td>6/1989</td>
<td>83%</td>
<td></td>
<td>H-I #4</td>
<td>32%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>1988</td>
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<td></td>
<td>1988</td>
<td>8/1988</td>
<td>79%</td>
<td></td>
<td>H-I #1</td>
<td>98%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>1987</td>
<td>8/1987</td>
<td>88%</td>
<td></td>
<td>H-I #3</td>
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<td>2/1987</td>
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<td></td>
<td>1986</td>
<td>8/1986</td>
<td>81%</td>
<td></td>
<td>H-I #1</td>
<td>98%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1986</td>
<td>2/1986</td>
<td>61%</td>
<td></td>
<td>N-II #8</td>
<td>31%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
not prove to have been any direct or immediate determinant for such opportunity sharing arrangements. The STA and the NASDA, two key state organs in charge of aerospace development and commercialization, appear to be core elements of state power and leadership such as coherence of policies, autonomy, and prescience. The success or failure of state activism seems to have been irrelevant of the success of the Japanese industry as a whole, let alone of its orderliness.

In what follows, I shall the logic of opportunity sharing in light of my general argument. Discussion will be made in two key sectors (or markets) of the aerospace industry: the launch vehicle (or rocket) and the satellite. The applications satellite industry is discussed first because it was introduced and developed first with the introduction of the guided missile in the early post-war period.

III. OPPORTUNITY SHARING IN THE APPLICATIONS SATELLITE INDUSTRY

A key to the understanding of the industrial organization is tracing the prototypes of current arrangements. A close survey of historical materials suggests that it was in 1956 that an earlier version of the current division of labor in rocket
building came to reveal its shape. In November, 1956, the Defense Agency of Japan (JDA) had formally contracted a research project on guided missile with the following firms:

<table>
<thead>
<tr>
<th>Component</th>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>solid rocket</td>
<td>Fuji Precision (Nissan Motors)</td>
</tr>
<tr>
<td>liquid rocket (non-wing)</td>
<td>Mitsubishi Shipbuilding</td>
</tr>
<tr>
<td>liquid rocket (wing)</td>
<td>MHI; KHI</td>
</tr>
<tr>
<td>solid rocket launcher</td>
<td>Fuji Precision</td>
</tr>
<tr>
<td>auxiliary unit</td>
<td>PHI</td>
</tr>
<tr>
<td>propellant</td>
<td>Nippon Yushi</td>
</tr>
<tr>
<td>guidance devices</td>
<td>NEC</td>
</tr>
<tr>
<td></td>
<td>Toshiba</td>
</tr>
<tr>
<td></td>
<td>MELCO</td>
</tr>
<tr>
<td></td>
<td>Japan Radio</td>
</tr>
</tbody>
</table>

The above list of firms also indicates that all of three applications-satellite manufacturers (NEC, MELCO, and Toshiba) had already arrived on the scene. In forming the above arrangement, the role of the government, particularly the JDA as the procurer of guided missiles, must have had a strong voice. But this does not mean that the JDA had the decisive control over market entries of private corporations.

In reality, entries of most of the above corporations were induced by private actors. The center of private corporations engaged in the aerospace-related businesses were Keidanren’s Defense Production Committee (DPC). As early as in 1953, the majority of the firms called to participate in the JDA’s guided missile research project were already members of the Missile Sub-Committee (Yūdōtan Bukai) of the DPC. The original members of the Sub-committee were:

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51An important point to note here is that the origin of the Japanese space program was not civilian but military.
Nippei Sangyō
Mitsubishi Shipbuilding
Tokyo Koku Keiki
NEC
Kawasaki Heavy
Nippon Jet Engine
Fuji Precision (Nissan)

Tōkyō Keiki
Hokushin Denki
Toshiba
Shin Mitsubishi Heavy
Hitachi
Japan Radio
Kōbe Kōgyō.

On July 1, 1954, the JDA was inaugurated based on the Defense Agency Installation Law. Immediately after the inauguration of the JDA, Keidanren’s GM Kondankai announced its "Opinion on the Direction of Guided Missile Research."\(^{52}\)

Through this Statement, Keidanren announced its views on market competition. One was that research activities ought to be concentrated into one center in order to avoid overlapping investments. More importantly, it was suggested that the (full market) competition method (kyōsō hōshiki) be discouraged in principle. As for inter-firm cooperation through sharing of information and technologies, exchanges were to be promoted so that there would be no regrets (ikan no nai yōni) and opportunities for learning to be equally given. Only the right of initiation of the research would be acknowledged. Keidanren also decided that competing firms cooperate fully, regardless which keiretsu they belonged to, on all three stages of research (kenkyū), prototype making (shisaku), and production (seisan) of missiles. Recognition of keiretsu would start being considered from the prototype-making stage, which would then lead to

\(^{52}\)The opinion entitled in Japanese "Ji Emu Kenkyū Hōshin ni Kansuru Ikenshō" was issued on September 28, 1954.
keiretsu-wide production on the basis of division of labor.\(^5^3\)

The above statement of the Keidanren was nothing less than a Japanese business world’s (zaikai) manifesto of managed competition. The Keidanren’s opinion was fully accepted by the JDA, which lost no time in deciding to divide the prototype research work into three segments. Each segment was then taken by three major business groups as follows:

- **Mitsubishi Group:** Surface-to-Air Missile
  - Shin Mitsubishi Heavy
  - Mitsubishi Shipbuilding
  - MELCO
  - Asahi Kasei

- **Fuji Precision Group:** Air-to-Air Missile;
  - Fuji Precision
  - Toshiba
  - Tōkyō Avionics

- **Kawasaki Group:** Anti-Tank Missile
  - Kawasaki Aircraft
  - NEC.

Why had the above firms joined the missile business? Were they forced to do so by the JDA? The only plausible answer we can find from the historical data was that the missile business had the promise of mastering the advanced technology that many Japanese firms were attempting to obtain. At that time, making profit out of missile businesses looked uncertain, and Hitachi,

Ltd.'s decision not to join the business supports this point. The key technologies in question were the ones related to governing or regulating spacecraft or the flight vehicle (hishōtai in Japanese parlance) either in flight or on the static earth orbit. While Japan had reached a certain technological level in propelling flying objects into the open air even in the pre-war period, guiding (yūdō) and controlling (seigō) them required new technologies at a high level.

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54 The absence of one of the leading general electric companies, Hitachi, Ltd., from the above distribution of work illustrates that there was no control or coercion on the part of the government as for market participation. Hitachi did not participate simply because it thought the missile business was not likely to produce any sizable profits. Hitachi's weak presence in the space industry seems to be interpreted in two ways. One is its management's pro-market orientation. According to an STA official, Hitachi had been reluctant to enter into the space businesses because of its uncertain future. Hitachi had set up an independent space development division in 1966. Hitachi's case at least proves that there was autonomy for Japanese firms in making market entry decisions. For similar reasons, Matsushita had entered the space industry as early as in 1965 to provide gauges to be mounted in the rockets developed by Tōdai; in 1967 the firm succeeded in developing the radar monitoring unit. Oki also began to develop a rocket control system in 1967.

55 Hishotai literally means the flying (hi) and soaring (shō) body (taî). This term, while frequently used in the space community, does not appear in ordinary dictionaries.

56 In general terms, the set of technologies involved with the above activities can be grouped under the heading of 'guidance' (yūdō) and 'control' (seigō). In aerospace, guidance means "the process of directing the movements of an aeronautical vehicle or space vehicle, with particular reference to the selection of a flight path" (Cubberly, 1992, p. x). As to 'control' as an engineering concept, there could be several definitions. In aerospace, however, control refers to "attitude control" which means the "regulation of the attitude of an aircraft, space craft, etc." where attitude means "the position or orientation of an aircraft, spacecraft, etc., either in motion or at rest, as determined by the relationship between its axis and some reference line or plane or some fixed system of reference axis" (Cubberly,
In deciding to take up the missile business, then, the top managers of the Japanese corporations -- particularly those that were immediately concerned with the electronic guidance technology such as MELCO, NEC, and Toshiba -- could reach the conclusion with surprising ease and speed as they had no need to consult their employers. An exemplary statement, even though it is rather rhetorical, which reflected on the power and autonomy of the Japanese top executive is found from the case of MELCO which was already introduced.

NEC's entry into the industry was greatly affected by a single individual, Kobayashi Kōji. Kobayashi was the director of NEC research lab when he was approached by Profs. Itokawa and Takagi Noboru of Tōdai in 1955. In 1957, NEC completed the telemeter transmitter to be mounted on the observation rocket.  

Toshiba's entry into the market was in 1954 when it was asked to manufacture an experimental rocket telemeter. Compared with MELCO and NEC, Toshiba was clearly behind in track records. Therefore it is questionable as to why Toshiba was able to get an important satellite project later. One line of explanation about Toshiba's success in the satellite business was offered from the political perspective; according to this interpretation, the role of Mr. Dokō Toshiō, the then chairman of IHI and the central}

1992, p. x; Emphasis added).

57 Purely a NEC man, Mr. Kobayashi had assumed the positions of president and chairman in turn for 24 years all together. He passed as the leader in Japan's drive for information and telecommunications industry and is also reported to have been very close to Nakasone Yasuhiro.
figure of the Keidanren, was essential in supporting Toshiba.\(^{58}\)

Another episode which attests to managerial sovereignty at Toshiba was the controversy on whether to quit space business at the peak time of real-estate and financial speculations (or the bubble economy). At that time, Toshiba’s aerospace sales reached only several billion yen, which was less than 1% of total corporate sales. Faced with internal opinions that Toshiba could divert aerospace personnel and R&D budgets to other businesses, Chairman Aoi decided to continue. Because of this decision, there was no pressure from NASDA or other government agencies for Toshiba to continue.\(^{59}\)

Engagement of Fuji Precision Ind. Co. (now Nissan Motor Co.) -- the sole contractor for solid-fuel engines now -- with the aerospace industry was ignited in October, 1953 when Prof. Itokawa of the University of Tokyo asked a couple of the firms’ senior managers for cooperation in developing a basic scientific rocket.\(^{60}\) The first meaningful action that Fuji Precision took was to form a "study group" (benkyōkai) with Toshiba, a leading

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\(^{58}\)Dokō Toshiō was originally a mechanical engineer and a long-time employee of IHI. But he had been seconded for a long time to Toshiba, another Mitsui keiretsu firm; A former IHI director believes that this experience led Dokō to have particular affection for Toshiba. According to the former head of IHI’s rocket engine division, it was Dokō Toshiō that put Toshiba into the center of satellite industry (in his words, Dokō san ga yatta).

\(^{59}\)Interview, Senior Advisor, Toshiba Corp., Tokyo, 29 January 1995.

\(^{60}\)Nissan Motor Co. at that time was still Fuji Precision Ind. Co. which was Nakajima Aircraft Co. during the pre-war period. Prof. Itokawa of the University of Tokyo was also an engineer of Nakajima Aircraft.
electric firm at that time. As the next logical step, Fuji Precision needed a manufacturer of solid propellant. The search was begun by contacting an official at the Association of Explosives' Makers who was the friend of the vice president of Fuji Precision.  

With regard to space avionics, NEC had emerged as the leader of these three firms around the mid-1950s. In competing with MELCO and Toshiba, NEC, as the radio maker, formed an alliance with KHI as the frame maker. The NEC-KHI team received the order of this work and delivered the product in 1955 after a trial period. Another meaningful NEC victory for future aerospace business was won in 1955 in the "Study on Telemetry Equipment" ordered by the JDA. In this bidding, NEC teamed up with KHI and Tokyo Kōkūkeiki and Yokogawa Electric and succeeded in getting the project. NEC's guidance technology team formed a temporary division in charge of guidance and flying body development in November, 1957, and the division succeeded in getting works from Tō dai and JDA.

61 Toda, p. 32.


63 The telemeter, a critical piece of space equipment that transmits data collected by the satellite to the ground, was scheduled to be used for the buzz test for RIT-1 and KMM-2 aircraft which KHI was making for JDA as telemeters for KA-R and KA-T test rockets.
Surrounding the HAWK, the competition between MELCO and Toshiba was reportedly too keen to drop any of the firms. It was finally decided that MELCO should become the systems integrator. The common work portions and the distribution of jobs would be:

**Mitsubishi Group:** 70% of the work

- MELCO electronics and payload
- Nippon Radio illuminator
- MHI launcher, rocket machinery
- Daicel propellant
- Nissan Motors rocket motor

**Mitsui Group:** 30% of the work

- Toshiba radar
- Fuji Heavy pallet
- Tokyo Instruments instruments
- Nippon Steel works materials.

These work sharing formulae were approved by the government cabinet meeting in November, 1967. Based on this cabinet decision, the Foreign Capital Council (*gaishi shingikai*) approved, in March, 1968, the technological tie-ups between Japanese and American firms as follows:

- MHI - MacDonnell Douglas
- MELCO - Raytheon
- Daicel - Aerojet
- Toshiba - Litton Industries
- Japan Aviation Electronics - Hughes Electronics.\(^{65}\)

\(^{64}\)M. Kihara, 1975, p. 172.

\(^{65}\)Ibid.
A. The GMS-CS-BS Plan

The prototypes for the three kinds of satellites were planned and procured in one single government development scheme. The *NASDA Note* (1991), a manual published by NASDA, lists these three applications under one category of "satellites according to the GMS-CS-BS plan." In 1970 STA Minister, Nishida, asked for a major change in the aerospace policy so that it could allow the re-orientation to liquid engines and to importation rather than domestic development. He also explicitly stated that large liquid-propelled engines were needed to launch GMS, BS, and CS.\textsuperscript{66}

Since the first round of launches of the original versions (i.e., GMS, CS, and BS) in 1977 and 1978, the basic division of labor has been maintained, except for major deviations with the broadcasting satellites (the BS-III series). Table 6-2 shows that NEC and MELCO are dominant over Toshiba. The opportunity sharing among NEC, MELCO, and Toshiba is much more political and dramatic. Above all, the affiliation with the US firms as sources of needed technology was the most important determinant. This fact critically weakens the line of thinking that the market order is determined by government visions or policies.

Related to this variable was the vested right in the given technology area or market. These three firms had begun to be involved with satellite-related research in 1953 at the

\textsuperscript{66}Mainichi Shimbun, 15 October 1970.
<table>
<thead>
<tr>
<th></th>
<th>Project</th>
<th>Percentage</th>
<th>Application</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEC</strong></td>
<td>GMS</td>
<td>11%</td>
<td>spin stability</td>
<td>2/1977</td>
</tr>
<tr>
<td></td>
<td>GMS-II</td>
<td>35%</td>
<td>spin stability</td>
<td>8/1981</td>
</tr>
<tr>
<td></td>
<td>GMS-III</td>
<td>32%</td>
<td>spin stability</td>
<td>8/1984</td>
</tr>
<tr>
<td></td>
<td>GMS-IV</td>
<td>32%</td>
<td>spin stability</td>
<td>9/1989</td>
</tr>
<tr>
<td></td>
<td>GMS-V</td>
<td>29%</td>
<td>spin stability</td>
<td>9/1994</td>
</tr>
<tr>
<td></td>
<td>BS-IIIa</td>
<td>83%</td>
<td>3-axis (bias)</td>
<td>2/1990</td>
</tr>
<tr>
<td></td>
<td>BS-IIIb</td>
<td>83%</td>
<td>3-axis (bias)</td>
<td>8/1991</td>
</tr>
<tr>
<td></td>
<td>ETS-I</td>
<td>84%</td>
<td>spin stability</td>
<td>9/1975</td>
</tr>
<tr>
<td></td>
<td>MOS-I</td>
<td>95%</td>
<td>3-axis (controlled bias)</td>
<td>2/1987</td>
</tr>
<tr>
<td></td>
<td>MOS-Ib</td>
<td>99%</td>
<td>3-axis (controlled bias)</td>
<td>2/1990</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>10 projects</td>
</tr>
<tr>
<td><strong>MELCO</strong></td>
<td>CS</td>
<td>23%</td>
<td>spin stability</td>
<td>12/1977</td>
</tr>
<tr>
<td></td>
<td>ECS</td>
<td>53%</td>
<td>spin stability</td>
<td>2/1979</td>
</tr>
<tr>
<td></td>
<td>ECS b</td>
<td>53%</td>
<td>spin stability</td>
<td>2/1980</td>
</tr>
<tr>
<td></td>
<td>CS-IIa</td>
<td>62%</td>
<td>spin stability</td>
<td>2/1983</td>
</tr>
<tr>
<td></td>
<td>CS-IIb</td>
<td>62%</td>
<td>spin stability</td>
<td>8/1983</td>
</tr>
<tr>
<td></td>
<td>CS-IIIa</td>
<td>80%</td>
<td>spin stability</td>
<td>8/1988</td>
</tr>
<tr>
<td></td>
<td>CS-IIIb</td>
<td>80%</td>
<td>spin stability</td>
<td>9/1988</td>
</tr>
<tr>
<td></td>
<td>ETS-II</td>
<td>46%</td>
<td>spin stability</td>
<td>2/1977</td>
</tr>
<tr>
<td></td>
<td>ETS-IV</td>
<td>100%</td>
<td>spin stability</td>
<td>9/1981</td>
</tr>
<tr>
<td></td>
<td>ETS-V</td>
<td>95%</td>
<td>3-axis (controlled bias)</td>
<td>8/1987</td>
</tr>
<tr>
<td></td>
<td>ISS</td>
<td>64%</td>
<td>spin stability</td>
<td>2/1976</td>
</tr>
<tr>
<td></td>
<td>ISS b</td>
<td>64%</td>
<td>spin stability</td>
<td>2/1978</td>
</tr>
<tr>
<td></td>
<td>JERS</td>
<td>96%</td>
<td>3-axis (zero momentum)</td>
<td>2/1992</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>13 projects</td>
</tr>
<tr>
<td><strong>Toshiba</strong></td>
<td>BS</td>
<td>15%</td>
<td>3-axis (zero momentum)</td>
<td>4/1978</td>
</tr>
<tr>
<td></td>
<td>BS-IIa</td>
<td>31%</td>
<td>3-axis (zero momentum)</td>
<td>1/1984</td>
</tr>
<tr>
<td></td>
<td>BS-IIb</td>
<td>31%</td>
<td>3-axis (zero momentum)</td>
<td>2/1986</td>
</tr>
<tr>
<td></td>
<td>ETS-III</td>
<td>73%</td>
<td>3-axis (zero momentum)</td>
<td>9/1992</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>4 projects</td>
</tr>
</tbody>
</table>

invitation of the Defense Agency (JDA) for research and development on guidance and control of pilotless flying vehicles. From then on, none of these three firms has been excluded from the long road of satellite development, and none of other leading electric/electronics firms was invited to have an equal entry into the industry. Failures in delivering the satellites that meet the requirements even have not resulted in expulsion from the industry, except for the recent loss of Toshiba in broadcasting satellite works. Indeed, even after the loss, Toshiba acquired other projects to make up for the loss.

B. The ISS Round

Before the three major applications satellites were procured according to one plan, there was another applications satellite called the Ionosphere Sounding Satellite (ISS; Ume). ISS, a satellite for observing the worldwide distribution of critical frequencies of the ionosphere and sources of radio noise, was launched on February 29, 1976 by N-I rocket. It was the first Japanese 'applications' satellite. Contract decisions on ISS and GMS-I were made about the same time. In hindsight, as discussed below, job assignments for the above two projects were determined

The decision to take the job away from Toshiba was carried out by the NHK, the user of the satellite. The incident reflected more of the changing power positions within the Japanese space community than of the changing logic market ordering in Japan.
according to what foreign technologies each competitor could introduce.

The ISS project was reflected in the MPT budget for the fiscal year 1967. The satellite was to be used for the Radio Research Laboratories (Denpaken) of the MPT. In the spring of 1968, the request for proposal (RFP) was sent to seven companies: MELCO, NEC, Toshiba, Fujitsu, Matsushita, Oki, and Hitachi.\(^{68}\) At that time, NEC was believed to be the best in the satellite manufacturing, mainly because of its track record of its works for Tōdai. Takeuchi describes the technology gap between companies with the analogy:

If NEC was the yokozuna [a sumo wrestler champion], MELCO was a maegashira [a senior-grade wrestler] skipping the ranks of ōzeki [second-ranker], sekiwake [junior-second ranker], and komusubí [third ranker] that follow the yokozuna. Other firms were ranked at the jūryō [junior grade] class.\(^{69}\)

At NASDA's request for a proposal, all seven forms responded, but it was reported that only two proposals, those of NEC and MELCO, had received any serious attention of Denpaken, the user of the satellite.\(^{70}\) Despite the widely held belief that MELCO was much behind NEC in terms of satellite technology, MELCO was awarded the project.

\(^{68}\)Uchū Kaihatsu Jigyō Dan, 1989, p. 204.

\(^{69}\)R. Takeuchi, 1985, p. 91.

\(^{70}\)When the proposals had reached MPT, it was reported that NEC proposal was as thick as fifty centimeters, while that of MELCO, one meter (Ibid., p. 110.)
The available data on the competition and final decision on the ISS project suggest several important points to consider. One was the growing relationship between Denpaken and MELCO. A MELCO manager, upholds this observation in general terms.\textsuperscript{71} More specific information on this affinity is the role of Hiraiwa Yoshihide, a senior manager (tantō buchō) in charge of aerospace development of MELCO at that time.\textsuperscript{72} Even though this observation of personal and institutional affinities is not entirely refutable, it would be equally difficult to take it as the primary determinant. A more official explanation is the technological promise MELCO was offering owing to its tie with TRW, Inc. of the United States at that time. A leading computer firm with large concerns in missile and aerospace businesses, TRW was the teacher of guidance technologies for MELCO at the time.\textsuperscript{73}

But, there is a political interpretation of the same effect. The interpretation is offered from a perspective of market sharing as a hidden agenda.\textsuperscript{74} According to this interpretation, engineering test satellites (ETSs) are developed for literally 'test' purposes, thus heralding the order of the ensuing real

\textsuperscript{71}Interview, Senior Manager, Space Communications Division, Mitsubishi Electric Co., Tokyo, 18 August 1992.

\textsuperscript{72}Takeuchi writes that Hiraiwa, a former MPT official who was later 'scouted' by MELCO, was instrumental in obtaining the ISS project (R. Takeuchi, 1985, pp. 90-102).

\textsuperscript{73}The nucleus of TRW is the Ramo-Wooldridge Corporation.

\textsuperscript{74}Personal interview with the chief of the science division of the Asahi Shimbun who was a veteran reporter of the space industry.
applications satellites. This observation is partially supported by the plan NASDA had hammered out: the plan to develop GMS, CS, and BS in order. In this view, it was agreed that ETSs were to be experimental models for:

- ETS-I: GMS
- ETS-II: CS
- ETS-III: BS.

At the time of the competition for ISS, then, the only NASDA-ordered satellite that was awarded was ETS-1, which was given to NEC. Therefore, according to his interpretation, MELCO, the only technologically eligible electronics firm, was next in line to take the next available job. For any of, or a combination of, these reasons, the ISS job was given to MELCO. Even though the job was basically given to MELCO, the norm of opportunity sharing among with the failed bidders was repeated. On 17 March 1969, MPT Minister Kōmotō invited the presidents of the seven firms to his office and notified them that "MELCO would be the prime contractor, and all other six firms will be sub-contractors."  

C. The GMS Round

The GMS plan was officially mentioned at the ministry level on September 17, 1965. On that day, the Japan’s Meteorological Agency (JMA hereafter) had issued an agency resolution that the

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75R. Takeuchi, 1985, p. 112.
Agency would start a project to develop equipment for
geometeorological satellites. The next year, on August 3,
NSAC (later SAC) endorsed the project to develop GMS in its
proposal. From this initial decision on GMS development, it had
taken four years before specific company names were mentioned as
candidates who would receive RFP. In an effort to prepare for
the launching of GMS, Dr. Kitaoka Ryōkai, Director of JMA's
Meteorological Research Institute, called "seven to eight" firms
together to explain JMA's plan to build a GMS in order to
participate in the Global Atmospheric Research Program (GARP) of
the World Meteorological Organization (WMO). By mentioning
that the planned launch time was in 1975, Kitaoka gave the
participant firms RFPs. Out of several firms that had received
the RFP, it was reported that five firms had filed their system
development proposal by January 15, 1970. From the very
beginning, however, JMA had only MELCO and NEC in mind as
appropriate candidates:

At that time only Japanese corporations that were working on
aerospace development (uchū kaihatsu ni te kakete ita) were
MELCO and NEC. MELCO was the main contractor for the
Ionosphere Sounding Satellite (ISS), and NEC had been
developing science satellites for the University of Tokyo. Therefore, it was inevitable (yamuwo enakkatta) to give
preference (jūyōshi) to the data submitted by the two

76Kishōchō, 1988, p. 136.

77An official publication of the Meteorological Agency (the
user of GMS) titled "The Beginning of GMS" [seishi kishō eisei
kotohajime] (1993) writes that it was six firms, but does not
specify which firms they were.

78Kishōchō, 1988, p. 32.
According to this statement, then, the other four or five firms were invited -- almost pro forma because JMA knew they would not receive any serious consideration. According to NEC history, NEC's proposal had passed the initial phase of concept designing. While working on the Phase B (preparatory) designing (yōbi sekkei), however, it was known that the Japanese meteorological satellite must be technologically coherent with the Synchronous Meteorological Satellite (SMS) (which was under NASA's development) in order to be able to participate in GARP. In this sense, meeting the needs imposed from outside or foreign pressure was the initial consideration of aerospace development. Now the competition was staged between MELCO and NEC.

MELCO and NEC were in different situations when the RPF for GMS was given. At that time, it was widely expected that MELCO was better positioned for GMS while NEC was more suitable for communication satellites technologically. MELCO was already working with TRW on the ISS project, and therefore was intending to continue the relationship in competing for the GMS project.

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79 Ibid., p. 43.


81 The synchronous satellite, whose rotation is synchronized with that of Earth, can be also called the geostationary satellite. GMS stands for geostationary meteorological satellite.

82 Interview, Chief Manager, Space Development Sales Division, NEC, Tokyo, 20 August 1995.
NEC then entered a technical tie-up with Hughes Aircraft, and Hughes was just involved with the preparatory designing of SMS. Around this time, however, shocking news was released from the United States. In the bid for the GMS in the US, TRW lost to Ford Aerospace. With this news, MELCO became caught in a conflict between its loyalty to TRW and the possibility of introducing advanced technology from Ford. MELCO then came up with a 'Japanese' solution and asked TRW if it could collaborate with Ford for MELCO. But TRW was critical of MELCO's opportunistic position.\textsuperscript{83} MELCO people were, however, patient in persuading TRW to consider their own needs; as TRW needed the Japanese business, it finally suggested that TRW do the entire satellite work while giving some hardware work to Ford. With this positive answer, MELCO approached Ford. Ford, however, flatly refused as it was impossible for Ford and TRW work together for MELCO. After multiple rounds of talks between TRW and Ford with a view to integrating technology from both companies, MELCO finally ended up with Ford and discarded TRW.

The final showdown in the bidding was between MELCO-Ford and NEC-Hughes, and it was forecast that the MELCO-Ford team was better in both technology and price. The final result, however, turned out to be a victory for Hughes' technology. Finally, in October, 1973, the project to develop a GMS was given to the team

\textsuperscript{83}R. Takeuchi, 1985, p. 134.
of NEC and Hughes. After this, the GMS series satellite projects went to NEC. Seen from the vantage point of technological efficiency, this decision was a rather mysterious one for two reasons. First, domestically, it was widely believed that NEC had a technical superiority in communications, and MELCO was in better shape in geometerological satellite. This is not difficult to reason as NEC was the core member of the "Den Den family" (the traditional suppliers of communication equipment and parts for NTT which included Fujitsu and Oki other than NEC). Moreover, if the proven foreign technology was the real determinant, the GMS work should have gone to the MELCO-Ford joint venture as Ford Aerospace had surfaced as the winner in the US CMS competition. A tentative conclusion, as I will demonstrate more later, was that the technological superiority in the absolute sense was not a factor that determines procurement contracting; considerations of opportunity sharing (in the ways in which the learning of proven technologies is not hampered) could be a more important factor.

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According to the Meteorological Agency's history, it was on November 25, 1970 that the Meteorological Agency, as the "user" of GMS, gave the initial research (yōbi chōsa) works to NEC and MELCO. After this, it took another three years before NEC was finally selected to sign the procurement contract -- together with Hughes of the US -- with NASA (the official procurer on behalf of government) on October 30, 1973.

In delivering the first Japanese applications satellite, NEC seemed to have done a fine job. According to NASDA data, NEC had succeeded in making parts to a 88% level (Uchū Kaitō Jōgō Den, 1991, p. 24.) During a six and half year period between September, 1975 and April, 1982, ETS-1 had successfully performed such given missions as the entry into the geostatic orbit and guidance and control.
D. The CS Round

The next major project was the communications satellite, of which the major user was NTT. As for the development of the next two applications satellites of the GMS-CS-BS plan (i.e., communications and broadcasting satellites), MPT's demands became stronger creating conflicts with STA and SAC. Until early 1973, SAC did not entirely give up the goal of domestic development of applications satellites. On the other hand, MPT was pressing for the importation of US technologies by realizing the needs of the actual users such as NTT (communications satellites) and NHK (broadcasting satellites), which were under its jurisdiction. NHK's aspiration to launch a test broadcasting satellite at the earliest possible date was particularly strong. NHK's move was frowned upon by the STA Minister Nakasone (and ex officio SAC director) as he was still representing the national cause of kokusanka. Even the MPT Minister, who was in a position to attend to the NHK's needs, reportedly opposed the idea of "depending on the US makers entirely."\(^{86}\) Nevertheless, MPT demanded that SAC create new budget entries in the aerospace development plans for the fiscal year 1973 and for the introduction of CS and BS.\(^{87}\) In a negotiation between the STA Minister Nakasone and MPT Minister Mike, MPT's demands for new additional budget (tsuika kōsei yosan) (of approximately 4

\(^{86}\)Nihon Keizai Shimbun, 28 August 1973.

\(^{87}\)Asahi Shimbun, 17 February 1973.
billion yen) were held back temporarily (tana age), but instead MOF acknowledged an ear-marked applications development fund in the amount of 800 million yen, "to the great surprise of SAC." This episode clearly indicated that the users' voices were becoming ever stronger.

Before the project was commissioned to a private manufacturer, the basic design had been done at MPT in 1973. The job of the preparatory designing was given to two rival consortiums of MELCO-TRW and NEC-Hughes. But, due to MELCO's opportunistic decision to replace TRW with Ford, "the designation of the preparatory designer was suddenly (kyūkyo) changed to MELCO-Ford." Despite this hasty re-arrangement of the technological teaming-up, the communications satellite project was awarded to the MELCO-Ford team. Both NASDA and MELCO publications do not specify the reason why the job was given to MELCO-Ford so 'suddenly' -- and in spite of hasty change in the US partner. At that time, the preference of NTT as the user was obviously NEC, which was a loyal member of the "Den Den family." And there was even a clear indication that NTT was anticipating the winning of NEC.


90By the time the communications satellite project was contracted to MELCO-Ford, NTT had almost completed its own development of a transponder with a lot of assistance from NEC. When it became clear that NTT transponder would not match well with the satellite bus developed by Ford, responsible NTT managers made strong appeals to NASDA with the question that "what do we [NTT] do now?" (wareware no tachiba wa dōsite kureru?) (Ibid., p. 218).
radio-technology firm, was better prepared than MELCO to do the communication satellite work.\textsuperscript{91}

But what really mattered was the fact that NEC had obtained a big project (i.e., GMS) already. A senior MELCO officer described the situation, euphemistically, that "politics was very important" implying that economic and technological considerations were not primary determinants.\textsuperscript{92} NTT accepted the new development as a fact rather than make an appeal for opposition. For instance, NTT had to gone through a difficult interface problem with the designated procurers (that is MELCO and Ford): "almost half a year was spent for adjustment between NTT and Ford... People from NASDA, MELCO, Ford, NTT, and MPT used to have meetings into late at night almost every day."\textsuperscript{93}

E. The BS Round

The selection of Toshiba for the procurement of broadcasting satellites (BS) was much more political than the selection of MELCO-Ford for CS. Toshiba’s presence in satellite research and development was very weak; for instance, when NASDA had consulted

\textsuperscript{91}Interview, Senior Manager, Space Communications Division, Mitsubishi Electric Co., Tokyo, 18 August 1992.

\textsuperscript{92}Interview, Senior Manager, Space Communications Division, Mitsubishi Electric Co., Tokyo, 18 August 1992.

\textsuperscript{93}Uchū Kaihatsu Jigyō Dan, 1989, p. 219.
private firms in writing its 1964-70 Long-Term Plan, it had approached NEC, MELCO, and Hitachi for input.34

As NEC was confident about the winning in the communication satellite project (which it has lost), MELCO was confident in winning the project because Toshiba, a new competitor, had no experience in the satellite business at all. MELCO’s prevailing goal in the competition was to get the project, no matter what the profit might be. It was determined then to suggest a low price, and MELCO’s position was not acceptable for its partner, TRW. TRW’s stance toward MELCO was simple enough: if you expect loss, why go for the bid at all?35 In short, this was a conflict between strategic rationality and market rationality of business partners. As MELCO and TRW were caught in the conflict over price, the project finally went to Toshiba as a sort of third party’s profit. The decision was again difficult to explain in economic or technical terms, other than the working of some supra-market logic.

NASDA’s official explanation was the superiority of the zero-momentum, three-axis stabilization technology of General Electric (GE), Toshiba’s partner. Considering that Toshiba was virtually inexperienced in that technology, we can easily reason that the real purpose for assigning the job to the Toshiba-GE team was to have Toshiba master the technology. Indeed, even after the BS-a project, Toshiba continued to work with GE through

34Nihon Denki Kabushiki Kaisha, 1987, p. 32.

BS-2a and BS-2b projects, the only satellites not using the spin-stability attitude control technology. The next, non-BS project that was supposed to use the zero-momentum, three-axis stabilization technology was the Marine Observation Satellite (MOS). The project, however, was contracted to NEC, not Toshiba.  

The logic of opportunity sharing at the industry -- not project -- level described above seems to be supported when we consider the project assignments of these three kinds of satellites. As suggested in Table 6-2, NEC, MELCO, and Toshiba specialized (and obtained all contracts) in each area. This industry-level seems to have been reshuffled when basic satellite technologies were sufficiently learned by these firms, to which the discussion will now turn.

F. The Three-Axis Stabilization Technology

Once the take-off stage was successfully completed with launches of GMS, CS, and BS according to the "GMS-CS-BS Plan," the concerns for mastering new orbit control technologies became

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96Other than the BS-series satellites, Toshiba obtained the project to develop the Engineering Test Satellite III (ETS-III) that adopted the 3-axes technology. But this project was contracted before the completion of the GMS-CS-BS round of procuring applications satellites.
refined. Now the new technology in question was called the "three-axis stabilization" (sanjiku shisei seigō) technology which was considered more advanced than the "spin stability method." The whole notion of three-axis had already been heard about in Japan as early as in 1971. In July 1971, in the heat of the discussion on how to promote the GMS project, RCA had suggested the three-axis technology to the Committee on GMS R&D Promotion (Kishō Eisei Kenkyū Kaihatsu Suishin Inkai; GMS Committee hereafter) specially installed for NASDA. RCA's suggestion on the three-axis technology created a "stir" (hamon) in the Japanese aerospace community in which the spin stability technology had been already under study. The debate continued until it was decided that the method that was proven, and thus has the least risk, should be taken. As such, the GMS Committee had settled for the spin stability method which had been already studied.

However, the talk of the three-axis technology had not died totally. The Meteorology Council (Kishō Shingikai), in its 1973 "Long-Term Plan for Weather Satellites," stated clearly that the

97The spin stability method secures the stability of the satellite by causing it to rotate by spinning. The three-axis stabilization (three-axis hereafter) method keeps the earth-observation sensor of the satellite to face the earth always by controlling the flywheel mounted in the satellite. Even though it was a more difficult to control, the three-axis allowed continuous information transmission and more refined observation as the sensor remains facing the earth.

98Kishōchō, 1988, p. 23.

99Ibid., pp. 49-50.
three-axis technology would be seriously considered for GMS-III and later versions.\textsuperscript{100} In 1974 when GMS-II project had begun to be considered, the GMS Committee wanted the three-axis option to be opened in order to see whether it had now become settled as a technology for weather satellites.\textsuperscript{101}

In 1977, MELCO set up the Three-Axis Stabilization Technology Development Council (Sanjiku Gijutsu Kaihatsu Kaigi). This action was taken after it lost the ETS-III project to Toshiba (and GE).\textsuperscript{102} The attitude control technology used by Toshiba and GE was the "zero momentum method" of three-axis stabilization. The zero momentum control technology was then used for BS-IIa and BS-IIb satellites, both of which were manufactured by Toshiba and GE based on the tests done with ETS-III. In the ETS-III project, Toshiba had succeeded in recording a 73\% rate of domestic development of the three-axis stabilization technology (see Table 6-2).\textsuperscript{103} It was rather a remarkable rate considering the fact that the technology was provided by GE as a "black box," meaning that to reverse engineering was virtually impossible.\textsuperscript{104} Regardless of the success or failure of mastery from NASDA's standard, one thing was clear regarding the three-axis technology: Toshiba was the

\textsuperscript{100}Ibid., p. 109.

\textsuperscript{101}Ibid., p. 106.

\textsuperscript{102}R. Takeuchi, 1985, p. 164.

\textsuperscript{103}Uchū Kaihatsu Jigyō Dan, 1991, p. 36.

\textsuperscript{104}Chiku, 1992.
leader in Japan in this specific technology.

What MELCO had decided to introduce was something different from the zero-momentum control. The new method was the "controlled bias momentum" that was being developed by RCA. MELCO’s attempt to master a new three-axis stabilization technology was driven by new market opportunities as well as its determination to be abreast with the latest technology. On 4 September 1982, the day after the successful launch of ETS-III (dubbed as Kiku 4) on an N-I rocket (the ninth and last service of the rocket), a very early forecast was reported on the uses of the three-axis technology. The Asahi Shimbun reported that:

The ETS-III adopted the three-axis stabilization technology which is essential for controlling of large-sized application satellites... NASDA comments that the successful launch of ETS-III serves as "the foundation for the new age of large applications satellites"... But the attitude control equipment mounted on ETS-III is an American product... The problem now is how to manufacture domestically... It is expected that the three-axis technology will be adopted for the next applications satellites such as MOS-I, ETS-V, and JERS-1.

This report was obviously heralding business opportunities for satellite manufacturers using the NASDA source: MOS, ETS, and JERS projects. On the same day, the MELCO manager who had led

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105 The controlled bias technology was more difficult to master than the zero momentum even though both of them were variants of the three-axis stabilization technology. The zero momentum method was developed by GE. The zero momentum technology turns the flywheel, which remains static in the non-gravity space, in correcting the satellite attitude. On the other hand, the bias momentum method developed by RCA. In this method, the flywheel of the satellite revolves to some extent (having bias), therefore the attitude orbit control is obtained by manipulating the degree of bias.

106 Asahi Shimbun, 4 September 1982; emphasis added.
MELCO's bidding on the ETS-III project visited the firm's Kamakura Works (the maker of communications equipments) and expressed strong apprehension:

If we go on like this, MELCO's program on the three-axis technology will become aborted. The technology is critically important for future applications satellite businesses. Overcoming the defeat in the competition with Toshiba will be a task of extraordinary difficulty (nami tatei).\textsuperscript{107}

The solution, MELCO decided, was to acquire the attitude control technology that was neither the zero-momentum (GE-Toshiba) methods nor the spin-stability (RCA-NEC) one. With the assistance of Mitsubishi Trading, the MELCO research team learned that Messerschmitt-Bolkow-Blohm (MBB) of West Germany and Aerospatiale of France had the technology MELCC wanted. By this time, there was also the consciousness among the Japanese aerospace community that "US firms became reluctant (shiburidasu) to give latest technologies to Japanese firms."\textsuperscript{108} Morikawa Hiroshi, the MELCO manager who was the head of the firm's Three-Axis Stabilization Technology Development Council recalled:

The European firms do not make a fuss about disclosure fees or royalties as American firms do. For them, technologies progress gradually so that they don't seem to mind sharing the technologies with others. The only concern is how to advance the technologies. Particularly, MBB was like [Imperial Japan's] naval arsenals (kaigun kōshō teki) and thus was not loud in seeking profits. MELCO had paid the money which was something like the ink expenses (inki dai).\textsuperscript{109}

\textsuperscript{107}R. Takeuchi, 1985, p. 164.

\textsuperscript{108}Ibid., p. 169.

\textsuperscript{109}Ibid., p. 170.
After an extended period of "co-habitation" (dōsei seikatsu) with MBB researchers, MELCO was able to obtain the technology to build the controlled-bias, three-axis stabilization unit which became the "heart" (shinjōbu) of the MOS-I satellite (see Table 6-2).

G. Toward Project-Level Sharing: MOS and JERS Projects

The story about the MOS project reveals another piece of inside logic of the Japanese aerospace community. In May, 1986, NEC delivered this satellite to NASDA. But, in the very first place, when the MOS project was at the initial planning stage, NEC was not even on the short list of candidates. Candidates were, of course, Toshiba (which was now the most experienced maker in the three-axis stabilization technology) and MELCO (which was the visible potential competitor for Toshiba in the attitude control technology). Designation of the recipients of the request for proposal (RFP) was even based on the prejudices and arbitrary judgements of NASDA. The prejudice was formed as a result of NEC's "withdrawal" from the competition for the Engineering Test Satellite-III (ETS-III) project. The reason why NEC 'withdrew' from the ETS-III competition is not clear, but, according to those who follow the industry, the expression 'withdrew' was not entirely appropriate. The reason is because

\footnote{Nihon Denki Kabushiki Kaisha, 1987. p. 187.}
ETS projects are contracted out not to produce final applications satellites but to build, literally, engineering test satellites; so they are to serve the following real applications satellites rather than have their own functions. Therefore, even though not publicly acknowledged in the Japanese publication, it was found that the contract for an applications satellite would be accompanied by another contract for a test satellite to be launched prior to the real satellite.

Toward the end of the GMS-CS-BS round, NEC became strongly interested in the three-axis technology as it saw the potential limit of the spin-stability technology for fine-tuned attitude control. More importantly, however, the MOS, the largest project to use the three-axis technology was going to be unveiled. In July, 1978, NEC had immediately installed the MOS project team even with the knowledge that NASDA had already invited Toshiba and MELCO to give additional proposals. Again, help was to be found outside. NEC immediately asked RCA for technical assistance, and based on this, succeeded to persuade NASDA to accept the NEC proposal. Despite great research efforts, however, NEC finally acknowledged, in early 1980, that it "could not catch up" with the technology.\(^{11}\) Nevertheless the result of the competition was announced in March. Despite NEC’s clear recognition of the failure to catch up with technology and that Toshiba’s clear superiority in the three-axis stabilization technology, NEC was selected as the systems integrator with the

\(^{11}\) Ibid.
following "sub-contractors":

NEC: systems integrator
MELCO: attitude orbit control system
Toshiba: solar-battery panel
IHI: gasjet system.

With this decision, NASDA advised NEC "to gather all technological abilities of related firms under the motto of domestic development and production." Also, in developing the prototypes and the delivery of the sensors, three firms "were selected based on [NASDA's] investigation and in consideration of research outcomes available domestically" as follows:

short-range infra-red sensor: NEC
long-range infra-red sensor: Fujitsu
micro-wave sensor: MELCO.\(^{113}\)

As such, it was clear, in hindsight, that the MOS project was the turning point in the opportunity sharing regime -- from the industry-level sharing to the project-level sharing.

The Earth Resources Satellite (JERS) was the next project that confirmed the coming of the project-level sharing system. JERS, a satellite to be employed for the surveys of natural resources, was planned by MITI and STA in 1980. It was to be launched by the H-I rocket. JERS was a rather heavy satellite (1.4 tons) mounted with the synthetic aperture radar (SAR). The key technology in question in the case of JERS was also the three-axis stabilization technology. At the time of announcing

\(^{112}\)Ibid., p. 189.

\(^{113}\)Uchū Kaihatsu Jigyō Dan, 1987, p. 246.
the JERS project, there existed two methods within the three-axis stabilization paradigm: zero momentum developed by GE and bias momentum developed by RCA.

Japan adopted the "controlled bias method" taking strengths from both methods. On December 17, 1985, it was announced that the JERS project would be executed by MELCO as the prime contractor, with NEC and Toshiba as sub-contractors. The decision was based, reportedly, on MELCO's superiority in the three-axis stabilization technology.\(^{114}\) This was another "clean hit" (Japanese analogy using the baseball term) of the technology MELCO had learned from MBB of West Germany. JERS is also noteworthy from a different angle. It was the first applications satellite in which STA and MITI had co-jurisdiction for research and development. STA, through NASDA, was in charge of developing the body and bus of the satellite while MITI became responsible for the mission equipment to be mounted. This was indeed an early sign of the coming of MITI in the area of aerospace environment utilization, not rockets and satellites. In order to carry out its work, MITI organized its now famous R&D association (kenkyü kumiai) called the Resources-Remote Sensing Technology Research Association.

Going through development of MOS and JERS projects, the Japanese aerospace establishment (including both the public and private sectors) seemed to have settled for the project-level sharing. A foremost reason for the shift from the industry-level

sharing to the project-level sharing is the fact that the Japanese firms had basically succeeded in absorbing foreign frontier technologies. It was now the time that they assimilate and share those technologies through project-level opportunity sharing. This reasoning was confirmed by the MELCO manager who remarked that it was about this time that MELCO, NEC, and Toshiba implicitly agreed on a 4:3:3 share of the works in the entire applications satellite.\textsuperscript{115} Indeed, all applications satellite procurement projects after the JERS project were carried out collectively (with the systems integrator and the project members) as illustrated in Table 6-3.

IV. OPPORTUNITY SHARING IN THE LAUNCH VEHICLE INDUSTRY

The launch vehicle industry is more 'strategic' than the satellites industry which is now fully commercialized. The pressures that the satellite makers felt from the users such as NHK, NTT, and JMA (Meteorological Agency) did not exist for the rocket builders. The heavier dosage of national "strategic-ness" in the rocket industry is well illustrated by a long debate on

\textsuperscript{115}Interview, Senior Manager, Space Communications Division, Mitsubishi Electric Co., Tokyo, 18 August 1992. For the project-level sharing arrangements in the aircraft industry, see Samuels, 1994.
### Table 6-3

**MAJOR APPLICATION SATELLITES USING THE THREE-AXIS ATTITUDE CONTROL TECHNOLOGY**

<table>
<thead>
<tr>
<th>satellite</th>
<th>attitude control technology</th>
<th>rate of kokusanka</th>
<th>launch year</th>
<th>developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(before full domestic development)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BS</td>
<td>zero momentum</td>
<td>15%</td>
<td>1978</td>
<td>Toshiba</td>
</tr>
<tr>
<td>ETS-III</td>
<td>zero momentum</td>
<td>73%</td>
<td>1982</td>
<td>Toshiba</td>
</tr>
<tr>
<td>BS-IIa</td>
<td>zero momentum</td>
<td>31%</td>
<td>1984</td>
<td>Toshiba</td>
</tr>
<tr>
<td>BS-IIb</td>
<td>zero momentum</td>
<td>31%</td>
<td>1986</td>
<td>Toshiba</td>
</tr>
<tr>
<td>MOS-I</td>
<td>controlled bias momentum</td>
<td>95%</td>
<td>1987</td>
<td>NEC</td>
</tr>
<tr>
<td>ETS-V</td>
<td>controlled bias momentum</td>
<td>95%</td>
<td>1987</td>
<td>MELCO</td>
</tr>
<tr>
<td>MOS-Ib</td>
<td>controlled bias momentum</td>
<td>99%</td>
<td>1990</td>
<td>NEC</td>
</tr>
<tr>
<td>BS-IIIa</td>
<td>bias momentum</td>
<td>83%</td>
<td>1990</td>
<td>NEC</td>
</tr>
<tr>
<td>BS-IIIb</td>
<td>bias momentum</td>
<td>83%</td>
<td>1991</td>
<td>NEC</td>
</tr>
<tr>
<td>JERS-I</td>
<td>zero momentum</td>
<td>96%</td>
<td>1992</td>
<td>MELCO</td>
</tr>
<tr>
<td>(after full domestic development)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| ETS-VI | zero momentum | 100% | 1994 | Toshiba (systems integrator)
MELCO
NEC |
| ADEOS | zero momentum | 100% | 1995 | MELCO (systems integrator)
NEC |
| COMETS | 100% | 1996 | NEC (systems integrator)
Toshiba |
| ETS-VII | zero momentum | 100% | 1997 | Toshiba (systems integrator)
MELCO
NEC |

the domestic development and production (kokusanka) over launch vehicles. Therefore, refuting the state activism hypothesis is more difficult, yet it is more effective for supporting an alternative explanation for opportunity sharing if the former can be proven less valid or immediate.

We should begin with noting that there was no comprehensive policy or policy stance for the development of the launch vehicle industry. Any coherent policy on the development of the launch vehicle industry was formulated as late as in 1975. As a key aerospace policymaking group, the "Long-Term Vision Special Panel" (Chōki Bijon Tokubetsu Bukai) was established in 1975 in order to write long-term "visions." Chiku interprets that this was prompted by the "need for projecting a comprehensive and long-term vision for future aerospace activities with the time span of at least twenty-five years." In July 1977, the Special Panel submitted the "Long-Term Vision Concerning the Space Development in Our Nation" to the SAC. Based on the Vision, the Fundamental Guidelines of Space Development Policy (Uchū Kaihatsu Seisaku Taikō) was made official in March, 1978.

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116 Chiku, 1992. p. 19. At this time, the SAC identified five "basic issues" to be dealt with by the Special Panel as follows: (1) re-assessment of space development plans; (2) making the framework for assessing; (3) research and development of liquid-oxygen and liquid-nitrogen engines; (4) the definition of domestic production; and (5) the scope of space development in the future (Yato, 1983, pp. 202-3).

117 The "Vision" pointed out three major issues of the Japanese space policy making: (1) the outlook of space activities by the end of the century; (2) socio-economically desirable space activities for Japan; and (3) the feasibility of such activities.
Like the Vision, however, the Fundamental Guidelines listed three
general, abstract principles.\textsuperscript{118} The Fundamental Guideline was
also doomed to be revised in 1982 in the face of the perpetual
need for advanced US satellite technologies, particularly by NTT
and NHK.\textsuperscript{119} Since then, the Fundamental Guidelines have been
revised twice, in February, 1984 and in July, 1989. The three
principles have survived both of these revisions. New concerns
expressed in the revisions were the emphasis on commercialization
of aerospace development activities and the new aspects of
international co-operation. Unlike impressive technological
achievement in the aerospace industry, public policies have been
subject to criticism and expedient changes.

As such, the structuring of the launch vehicle industry was
determined more by politics -- both domestic and international --
than by policy. The Japanese government's awareness of the need
to develop a launch vehicle industry came only after an exogenous
shock: On October 4, 1957, the Soviet Union had succeeded in
launching \textit{Sputnik-I}, the first artificial satellite in the world,
which shocked the Japanese aerospace (more accurately, defense)

\textsuperscript{118}They were (1) the balance between social needs and the
national capability; (2) the securing of autonomous technology; and
(3) the harmony with space activities abroad. Among these abstract
principles, the second one deserves some careful scrutiny. As the
Fundamental Guidelines clearly stated, the use of domestic products
was not to be necessarily insisted on even though major parts and
equipment should be procured domestically.

\textsuperscript{119}Uchū Kaisatsu Jigyō Dan, 1987, p. 42. In June 1982,
Nakayama Taro, chair of LDP's Special Committee on Space
Development demanded that the Guideline be revised so as to "speed
up the development of rockets and satellites" (\textit{Nihon Keizai
Shinmbun}, 17 June 1982).
community at that time as discussed earlier. The shock shook the embryonic aerospace community of Japan into a sense of crisis and had both the government and business launch full-fledged efforts to construct a domestic aerospace industry. Initial ideas on how to develop launch vehicles, a prerequisite of a domestic aerospace industry, were formulated against this background.

While the shock from the Soviet Union had created some sense of crisis among the Japanese political and business elite, a movement towards the building of the defense industry was already in place at that time. In 1957, the first Basic Policy for National Defense was established, and accordingly the First Defense Build-up Plan had started in 1958 to be completed by 1960.\footnote{For detailed accounts of Defense Buildup Plans, see Samuels, 1994, pp. 154-97.} A key partner of this national enterprise was Keidanren again, as illustrated in the satellite industry. With a view to facilitate indigenous defense production, major organizations under the Keidanren wing (i.e., the Defense Production Committee, the Japan Ordinance Association, the Society of Japanese Aerospace Companies, and the Guided Missile Association) established a joint defense production study group (Bôei Seisan Kenkyûkai).\footnote{Ibid., p. 155.}

While the First Defense Build-up Plan was under development, the concern for domestic production of defense equipment was gaining momentum. The issue of domestic production (kokusanka)
became a central debate in the process of aerospace development. In May, 1959, the JDA minister, Inō, declared that missile production would be developed at home during the Second Defense Build-up Program Period (1962-66). With no indigenous technologies, however, the only way to reach domestic development was to license production.\textsuperscript{122} Before Inō's declaration, it was already known in 1958 that the United States agreed to transfer HAWK (medium-range) and Nike (long-range) surface-to-air (SAM) missile technologies to Japan. "Once the United States agreed to license the missile, the DPC supervised a vigorous competition for the prime contract."\textsuperscript{123}

Three business groups emerged for the competition. Interestingly, the groups were basically the ones named by the JDA back in 1954 for research and development on the guided missile:

Mitsui Group

Toshiba (electronics)
Nippon Steel Works (materials)
Dai Nippon Celluloid (propellant)
Tokyo Instruments (controls)
Mitsui and Co. (data acquisition and coordination)

KHI Group

Kawasaki Heavy Ind

\textsuperscript{122}As Samuels summarizes, "we observe an emerging preference for licensed co-production over the more expensive and risky pure domestic development (jun kokusanka) of weapons system. Responding to Finance Ministry concerns about budgets and JDA concerns about performance, MITI and the industry pursued kokusanka successfully through licensed production of U.S. components and systems, such as BADGE and HAWK" (Ibid., p. 167).

\textsuperscript{123}Ibid.
Fuji Precision
NEC

Mitsubishi Group

MELCO
MHI
Daicel.\textsuperscript{124}

The result of competition for the Nike project was the work sharing (buntan) as follows:

\begin{tabular}{ll}
MHI & prime contractor / systems integrator \\
NEC & electronic guidance system \\
Asahi Chemical & propellant \\
Nippon Yushi & propellant \\
Nissan Motors & rocket motor.\textsuperscript{125}
\end{tabular}

Nakasone Yasuhirō was the individual who had the largest influence on the aerospace industry.\textsuperscript{126} As proven in the defense programs, Nakasone was a strong sponsor of the kokusanka ideology.\textsuperscript{127} Although he was a nationalist, he was also a realist. As an STA minister who had opportunities to listen to aerospace professionals and developers, he came to realize that the indigenous development of rockets and satellites was a dream based on vanity. In this context, Nakasone likened the efforts for indigenous development to the premise that "zero by ten is

\textsuperscript{124}Samuels, 1994, p. 157.

\textsuperscript{125}Kihara, 1975, p. 171.

\textsuperscript{126}Saitō Shigebumi, one of leading space scientists in Japan, recollects that Nakasone was the "number one space promoter" (uchūkaihatsu suishin no dai ichininsha) (1992, p. 45). Nakasone had entered the cabinet for the first time in 1959 as STA minister in the Kishi administration. It was also at this time that Nakasone made his 'nationalist' tendency clearly known to the public and had begun to work on his cause of the revision of the constitution.

\textsuperscript{127}See Samuels, 1994.
still zero" (meaning: with zero guidance technology the Japanese aerospace industry would never take off). He believed that Japan needed a stepping stone for aerospace technologies development.

In June, 1960, Nakasone, as STA Minister, revealed what was called the "Nakasone Design." The Nakasone Design had a very important influence on the structuring of the launch vehicle industry even though he himself had not intended it. The campaign was an ambitious one, claiming three major paradigmatic changes: (1) the unification of institutions for aerospace research under the leadership of STA; (2) the shift of the dominant engine system from solid engine propulsion to liquid engine propulsion; and (3) the loosening of the commitment to indigenous development (jishu kaihatsu) and the introduction of foreign technologies. In short, the Nakasone Design presumed technological dependence on the United States. It was the old wisdom of iisei (overcoming barbarians by using barbarians) applied to a case of modern international realpolitik. The magnitude of this silent development was recognized in the way that the Nakasone Design meant a new era of aerospace


\[129\] Officially, the Nakasone Design consisted of three major policy positions (Sankei Shimbun, 25 June 1960):

1. To promote space development as a national project
2. To increase budget allocation for that purpose and to unify all wisdom and counsels from the academia; and
3. To augment cooperations with the United States for space research and development.
development: the year 1959 represented a shift from "Itokawa Rocket Era" to the "Nakasone Design Era."¹³⁰

As for the structure of the launch vehicle industry, the Nakasone Design served as an important background for the consolidation of MHI as the leader in the launch vehicle industry and the retreat of Nissan Motors to a supplementary position. Until around the establishment of the NASDA, the Japanese rockets were designed with the solid-propellant engine as the main thrust, and the leading solid-propellant engine maker was Nissan Motors. Nissan Motors had another advantage of holding the leadership, that is, the close relationship with Prof. Itokawa, the pioneer of the Japan’s aerospace program. Nissan Motors (and its propellant supplier, Nippon Oil & Fats or Nippon Yūshi) and Prof. Itokawa shared an institutional origin: they all belonged to the Nissan zaibatsu in the pre-war period. While Nissan Motors was a key firm of the zaibatsu, Prof. Itokawa was the head of the aircraft design section of the Nakajima Aircraft, another core firm of the Nissan zaibatsu during the Pacific War years.

There is concrete evidence indicating that the solid-propellant rocket was the main method of propulsion until the late 1960s and even the early 1970s. As of 1970, for instance, the only non-military rocket that could carry a substantial payload was the Lambda-4S rocket, a four-stage, fully solid-propellant rocket developed out of Itokawa's pencil rocket. On February 11, 1970, the rocket launched the first Japan-made

satellite, Ōsumi. The Lambda-4S rocket was a product of Nissan Motors. Another key piece of evidence was that the Q rocket was "the" rocket that Japan was planning in 1970. Until March, 1970, the Q rocket was expected to be the rocket for vehicle applications satellites.\textsuperscript{131} Yet the Q rocket plan (or more specifically the idea of having the solid-propellant rocket as the main mode of propulsion) was aborted.

Why was the Q Rocket Plan aborted? Explaining this puzzle is an important step toward the understanding of the logic behind current opportunity sharing. This is because answering this question will solve the following puzzles: Why has MHI become dominant, in terms of status and amount of work assigned, over its competitors? More importantly perhaps, why and through what processes has MHI become the systems integrator or "general representative" (sōdai in Japanese parlance) of the rocket industry? How have Nissan Motors and IHI come to share the rocket businesses?

As suggested above, one of the key debates that the Nakasone Design brought about was the issue of kokusanka. In the launch vehicle industry, the core of the debate was centered around whether Japan should insist on full-fledged domestic development or take a short cut to the ultimate goal by making use of proven foreign technologies. In short, it was a conflict between nationalism based on the confidence of the track record of the

\textsuperscript{131}Unlike the Lambda and Mu Rockets, the Q rocket was going to adopt the guidance method for flying in the space.
'science camp' and internationalism of the more pragmatically oriented businessmen and politicians of the 'applications camp'.132

The showdown between the two camps turned out to be the triumph of the applications side for two major reasons. One was the superior collective power of the applications camp at the industry level. Another reason was the shared understanding between political leaders and the applications-side industry that the principle of domestic production could be withheld in favor of the importation of proven foreign technologies -- so that the Japanese firms could produce aerospace systems and equipment independently. The aspirations for the building of liquid-propellant rockets were particularly strong at MHI and IHI. MHI Nagoya factory already had the experience in the area of guided missiles, which is very close to rockets in technological development. As we noted earlier, when MELCO had introduced the missile from Switzerland in 1958, Nagoya Aircraft did the liquid-fuel engine work. Indeed MHI and IHI were two large powers lobbying for the transition to the liquid engine.133 In fact, it was in the midst of the very controversy over importation of US technologies and the unification of national aerospace

132A key figure in the science camp was Prof. Itokawa, and the sponsor of the applications camp was Nakasone Yasuhirō. The clash between the science camp and the applications camp was going to have much impact on the selection of the main mode of rocket propulsion, that is, between the solid-fuel rocket and the liquid-fuel rocket.

133Interview, Senior Science Editor, Nihon Keizai Shimbun, Tokyo, 26 July 1994.
administration that MHI had begun the LS-A and LS-C project, the rockets to be propelled by the first liquid-propellant engine, a technology to be imported. Another piece of evidence is that even the NASDA history book characterizes that the LS series rockets were products of "administration-initiated development" (kyōsei kaihatsu).\textsuperscript{134} The chief engineer of the MHI Space Systems says LS-C was the "real beginning" of rocket R&D at MHI.\textsuperscript{135} With the knowledge of the coming N rocket plan, MHI had sent its engineers to MacDonnell Douglas and Rockwell International only a year earlier, in 1969, to learn the required propulsion and guidance technologies.\textsuperscript{136}

The SAC was convened and decided on a major national policy change in October, 1970: aborting the Q Rocket Plan under progress and launching into a totally new plan called the N Rocket Plan.\textsuperscript{137} The essence of this rather abrupt change was that the Q Rocket plan had to give way to a new plan to meet the

\textsuperscript{134}Uchū Kaihatsu Jigyō Dan, 1987, p. 3.

\textsuperscript{135}Interview, Chief Engineer, Nagoya Space Systems Works, Mitsubishi Heavy Ind. Co., Nagoya, 27 January 1995.


\textsuperscript{137}The N Rocket Plan stood for two major technological changes: (1) adopting 3 phase engines to be developed domestically and (2) adopting the liquid-propellant system as the basic framework. The systems integration to be done by MHI was to copy and integrate the McDonnell Douglas's Thor-Delta 2914 (simply called Delta by NASA) rocket with the improved version of the Q rocket's third-stage (liquid) engine. Wells and Hastings write that the Thor-Delta 2914 was a "off-the-shelf" technology (Uchū Kaihatsu Jigyō Dan, 1991, p. 21). The rocket was also a derivative of the Vanguard military missile.

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practical needs for learning guidance technology (yūdō gijutsu). The Q Rocket itself was conceived as "a means to learn the guidance technology" (yūdō gijutsu shūtoku yō). But under the pressure from the future users of applications satellites such as MPT and NHK, the STA could not help but bend its commitment to domestic development and pave the way for the importation of foreign technologies.\(^{139}\)

The primary goal of the shift from the solid to the liquid orientation lay in the opportunity to learn more about advanced guidance and control technologies. As Kihara writes:

But, more important reason [than these technical justifications] for the revision of the Q rocket plan for a new N rocket plan was to create the ground for importing US technologies, either in the form of license production or knock-down production.\(^{140}\)

In 1970, the year when the commitment to domestic development was officially scrapped, the STA Minister, Nishida Shin-ichi, said that it was "inevitable to import foreign technologies so as to master the technologies to develop high-precision rockets."\(^{141}\)

The needed rocket, the argument went, ought to be able to launch a payload of more than 1,000 kilograms and such propulsion would not be possible with the solid-fuel rocket. In order to launch a liquid rocket, then, guidance technology was essential;

\(^{138}\text{Uchū Kaihatsu Jigyō Dan, 1987, p. 31.}\)

\(^{139}\text{Mainichi Shimbun, 15 October 1970.}\)

\(^{140}\text{Kihara, 1975, pp. 150-51.}\)

\(^{141}\text{Mainichi Shimbun, 15 October 1970.}\)
however, this technology did not exist in Japan.\textsuperscript{142} The N Rocket Plan, the first of a series of projects to import and master rocket technologies, sought two major technological changes: (1) adopting three-phase engines to be developed domestically and (2) adopting the liquid-propelling system as the main engine. The initial design of the N-I Rocket indicates that Nissan Motors was not yet integrated into the system because it was planned that the N-I Rocket's third-stage solid engine would be a Thor Delta engine.\textsuperscript{143} It was also officially decided that foreign technologies would be imported for aerospace development. The "all-out revision" (zenmen shūsei) of the policy of developing a domestic rocket for a new N rocket based on imported technologies was prompted by the need to launch five different kinds of applications satellites (geometeorological, communications, maritime, earth-observation, and broadcasting satellites) starting "as early as from 1977."\textsuperscript{144}

It was also at this time that the dominance of the Mitsubishi firms over others was realized. MHI was anxious for the opportunity to learn the liquid-propellant rocket propulsion technologies, but not technologically prepared to become the systems integrator. One piece of information that shows how

\textsuperscript{142}Uchū Kaihatsu Jigyō Dan, 1987, pp. 25-28.

\textsuperscript{143}With the first-stage fuel-engine being a Thor Delta system, the N-1 engine was conceived to master the second-stage engine only. The second engine was going to be an improved model of the 3rd stage engine of the Q Rocket.

\textsuperscript{144}See, for example, Yomiuri Shimbun, 22 October 1970.
strong the support from the applications camp was is that the SAC was cynically called "N-Rocket Development Council" and NASDA, the "N-Rocket Development Agency."\(^{145}\)

The launch vehicle currently in use is called the H-II rocket, which was first launched on February 4, 1994. All parts of the H-II rocket are "100%" domestically manufactured. It is a large-scale rocket that can launch a payload of 2,000 kilograms. The H-II consists of following vertical stages:\(^{146}\)

<table>
<thead>
<tr>
<th>stage</th>
<th>engine</th>
<th>maker</th>
</tr>
</thead>
<tbody>
<tr>
<td>first stage</td>
<td>liquid engine (LE-7)</td>
<td>MHI</td>
</tr>
<tr>
<td>second stage</td>
<td>liquid engine (LE-5A)</td>
<td>MHI</td>
</tr>
<tr>
<td>booster</td>
<td>solid engine</td>
<td>Nissan Motors</td>
</tr>
<tr>
<td>liquid propellant</td>
<td>supply systems</td>
<td>IHI.</td>
</tr>
</tbody>
</table>

The developmental stages recognized at the government level were:\(^{147}\)

- Q rocket
- N rockets (N-I and N-II)
- H rockets (H-I and H-II).

While the H-II rocket depends on two stages of liquid

\(^{145}\)Yato, 1983, p. 171.

\(^{146}\)There are two forms of rocket propulsion in terms of the propellant to be used. In what follows, the rockets which use engines burning liquid propellants (e.g. hydro-oxygen and hydro-nitrogen) (i.e., "liquid engines") would be referred to as "liquid rockets." Likewise, the rockets using solid-propellant engines ("solid engines") would be called as "solid rockets."

\(^{147}\)The service years of the models prior to H-II were:

- N-I 1975 - 1982
- N-II 1981 - 1986
engines, H-I had three stages, with the third one being the solid engine built by Nissan Motors. The basic framework for the current H-II rocket which combines foreign and Japanese firms was consolidated with the H-I rocket as illustrated in Table 6-4.

But the prototype of opportunity sharing among Japanese firms was embodied in the N-I rocket. Therefore, the case of N-I rocket serves as an useful laboratory for finding out how opportunity sharing among competing firms was hammered out. The entire division of labor between liquid and solid engines for the N-I (and the ensuing H-I, N-II rockets) was as follows:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Engine Type</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>First stage</td>
<td>Liquid engine</td>
<td>MHI</td>
</tr>
<tr>
<td>Second stage</td>
<td>Liquid engine</td>
<td>MHI</td>
</tr>
<tr>
<td>Third stage</td>
<td>Solid engine</td>
<td>Nissan</td>
</tr>
<tr>
<td>Booster</td>
<td>Solid engine</td>
<td>Nissan</td>
</tr>
<tr>
<td>Liquid propellant</td>
<td>Supply systems</td>
<td>IHI</td>
</tr>
</tbody>
</table>

Even though the four different engines of the N-I rocket appear to be divided into two types of propulsion, the basis of propulsion of Japanese rockets is the liquid engine. One measure to prove this is the tonnage of engines. The total tonnages of two different kinds of engines were:

- Liquid engines (MHI) 76.0 tons
- Solid engines (Nissan Motors) 14.2 tons.\(^{14}\)

MHI (more accurately, the Mitsubishi Group) became dominant, but not monopolistic, in the entire aerospace business. It came to claim the leading position as early as at the time of dividing the missile business into three pieces in the late 1950s:


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Table 6-4

H-I Rocket Development Syndication

<table>
<thead>
<tr>
<th>Systems &amp; Parts</th>
<th>Maker</th>
<th>Technology Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall design &amp; systems integration</td>
<td>MHI</td>
<td>McDonnell Douglas</td>
</tr>
<tr>
<td><strong>1st-stage engine</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td>MHI</td>
<td>McDonnell Douglas</td>
</tr>
<tr>
<td>MB-3 engine</td>
<td>MHI</td>
<td>Rockwell Int’l</td>
</tr>
<tr>
<td>Vernier engine</td>
<td>IHI</td>
<td>Rockwell Int’l</td>
</tr>
<tr>
<td>Solid booster rocket</td>
<td>Nissan</td>
<td>Thiokcol Chemical</td>
</tr>
<tr>
<td><strong>2nd-stage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td>MHI</td>
<td>(McDonnell Douglas)</td>
</tr>
<tr>
<td>LE-3 engine</td>
<td>MHI</td>
<td>(McDonnell Douglas)</td>
</tr>
<tr>
<td>Gas jet unit</td>
<td>IHI</td>
<td>TRW</td>
</tr>
<tr>
<td><strong>3rd-stage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td>MHI</td>
<td>McDonnell Douglas (including faring)</td>
</tr>
<tr>
<td>Solid motor</td>
<td>Nissan</td>
<td>Thiokcol Chemical</td>
</tr>
<tr>
<td>Mounted electronics</td>
<td>MELCO</td>
<td>Motorola</td>
</tr>
<tr>
<td></td>
<td>NEC</td>
<td>Motorola</td>
</tr>
<tr>
<td></td>
<td>J.A.E.I</td>
<td>Honeywell</td>
</tr>
<tr>
<td>Software</td>
<td>MELCO</td>
<td>TRW</td>
</tr>
<tr>
<td></td>
<td>JED</td>
<td>Pan American Airline</td>
</tr>
</tbody>
</table>

surface-to-air; air-to-air; and air-to-surface. MHI also became the prime contractor in the propulsion technology area while working on the HAWK and Nike missiles for JDA. As Samuels states, "nearly three-quarters of these first major missile projects had been awarded to the Mitsubishi Group." But, had MHI excelled compared to other makers by providing reliable, large-scale liquid launch vehicle prompting the shift from the solid-rocket orientation? This seemingly logical "track-record" question does not hold. In reality, MHI's propensity to share business opportunities was manifested even before the formation of NASDA. In developing an indigenous rocket, MHI was willing to share the work with Nissan Motors so MHI developed one solid and one liquid engine while Nissan developed two solid engines. MHI, the sōdai (general representative) of the industry now, was no exception in getting involved with the aerospace industry due to small, contingent

149 For instance, design, production and test of surface-to-air (SAM) missiles came to be pushed at full steam in the Mitsubishi group in 1959 in the following formation:

<table>
<thead>
<tr>
<th>Company</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitsubishi Aircraft</td>
<td>main body</td>
</tr>
<tr>
<td>MELCO</td>
<td>electronics</td>
</tr>
<tr>
<td>Mitsubishi Shipbuilding</td>
<td>engine</td>
</tr>
<tr>
<td>Mitsubishi Chemical</td>
<td>fuel.</td>
</tr>
</tbody>
</table>

150 Supremacy of the Mitsubishi group became so manifested during the Third Defense Buildup Program that "the press sardonically referred to the Defense Agency as the 'Mitsubishi Munitions Ministry' (Mitsubishi Gunjushō)" (Samuels, 1994, p. 170).

151 The Policy Affairs Research Committee of the ruling Liberal Democratic Party ordered a significant portion subcontracted to Toshiba and the Mitsui Group, to diffuse the technology and the profits -- and to relieve considerable political pressure" (Samuels, 1994, pp. 157-8).
motivations. In early 1959, Prof. Itokawa approached the Nagoya factory of MHI and asked them to build him the motor and thrust chamber for the Kappa Rocket under development at that time. According to a MHI history book, "this was the very beginning of MHI's aerospace-related businesses."\textsuperscript{152}

Had MHI excelled compared to other makers by providing reliable, large-scale liquid launch vehicle prompting the shift from the solid-rocket orientation? This seemingly logical "track-record" question does not hold. As of 1970, the only non-military rocket which could carry a meaningful payload was the Lambda-4S rocket, a four-stage, fully solid-propellant rocket developed out of Itokawa's pencil rocket. On February 11, 1970, the rocket launched the first Japan-made satellite, Ōsumi. The Lambda-4S rocket was a product of Nissan Motors. MHI, Nissan's principal competitor, was working on the LS-C rocket.\textsuperscript{153} With the knowledge of the coming N rocket plan, MHI had sent its engineers to MacDonnell Douglas and Rockwell International only a year earlier, in 1969, to learn the required propulsion and guidance technologies.\textsuperscript{154} In reality, MHI's propensity to share business opportunities was manifested even before the formation of NASDA.

\textsuperscript{152}Mitsubishi Jūkōgyō Kabushiki Kaisha Nagoya Kōkūki Seisakushō, 1983, p. 216.

\textsuperscript{153}Its first version was tested on February 6, 1969.

In developing an indigenous rocket, MHI was willing to share the work with Nissan Motors so MHI developed one solid and one liquid engine while Nissan got two solid engines. Until March, 1970, the Q rocket was expected to be the rocket for vehicle applications satellites.\textsuperscript{155} In the original Q rocket, key engines -- the first and second stages -- were going to be the refined versions of the Mu rocket which had been developed and produced by Nissan Motors for the Tōdai team. The remaining third and fourth engines were to be developed by MHI with the technologies of US companies, McDonnell Douglas (liquid-propellant engine) and Aerojet General (solid-propellant engines) respectively.\textsuperscript{156} Therefore, the Q rocket was intended to be formed as follows:

- first stage: solid-propellant engine - Nissan Motors
- second stage: solid-propellant engine - Nissan Motors
- third stage: liquid-propellant engine - MHI
- fourth stage: solid-propellant engine - MHI.

The relationship between MHI and IHI illustrates how the market was divided to some extent. The division between MHI and IHI may raise a somewhat different question from the case of MHI-Nissan Motors sharing because MHI and IHI have been working in the same area of heavy machinery since the very dawn of industrialization in Japan. In fact, one may surmise that MHI and IHI represent different technological advantages in the

\textsuperscript{155}Unlike the Lambda and Mu Rockets, the Q rocket was going to adopt the guidance method for flying in the space.

\textsuperscript{156}\textit{Asahi Shimbun}, 6 March 1970.

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rocket projects. MHI's chief engineer (kishichō) in charge of aerospace technologies answered that MHI "had the technological basis for taking the entire liquid-engine businesses, but did not do so in order to share with IHI."\textsuperscript{157} Although being an engineer, the MHI manager was unable to offer any technological explanation; instead, the suggested cause was the "historical atmosphere" (rekishiteki huniki) that MHI and IHI managers and researchers inherited.\textsuperscript{158}

The background for such cooperative behavior is expressed in such abstract expression as "historical atmosphere"\textsuperscript{159} or, as a senior NASDA official recollects, "one should eat rice together with neighbors."\textsuperscript{160} Even though these expressions may appear irrational, the historically established norm of opportunity sharing among rival firms is no myth. There has been a clearly definable ideology as to market relationship that has been shared by managers and researchers of both public and private sectors. It even takes the form of prototype of market ordering, which now works as the framework of decision making as to inter-firm

\textsuperscript{157}Interview, Chief Engineer, Nagoya Space Systems Works, Mitsubishi Heavy Ind. Co., Nagoya, 27 January 1995.

\textsuperscript{158}Actually there were bitter feelings amongst MHI researchers because they felt that IHI had focused on political maneuver (nemawashi) without doing any serious investment and research on the liquid hydrogen engine (Interview with the MHI chief engineer on 27 January 1995).

\textsuperscript{159}Interview, Chief Engineer, Nagoya Space Systems Works, Mitsubishi Heavy Ind. Co., Nagoya, 27 January 1995.

\textsuperscript{160}Interview, Executive Director, National Space Development Agency, Tokyo, 12 August 1992.
relationships. One prototypical form of opportunity sharing is the "1932 formula" of "competitive bidding and sharing of work" in research and development set by the Imperial Navy. It is a tradition which exists in the form of an institutional memory contained within Japanese institutions and individuals. This memory, as a former official of the Science and Technology Agency (STA) responsible for aerospace development remarked, even worked as the basis in designing the role and characteristic of the NASDA.\textsuperscript{161} As for such institutional memory as determinant of market relationship, Johnson-Freese makes an interesting observation that:

\begin{quote}
The long institutional memories prevalent in Japan translate business-wise into the Japanese government deliberately awarding contracts based on a system designed to spread the contracts around to keep everyone in business, in return for industry political support... in America this might be seen as a 'weird' system... But from the Japanese perspective it simply part of the everybody-works-for-and-benefits-from-the-good-of-the-country system.\textsuperscript{162}
\end{quote}

The existence of the sharing philosophy is manifest, for instance, in the attitude of Mr. Kobayashi Kōji, a long-time president and then chairman of NEC. In the 1950s when MELCO and NEC were competing for satellite businesses, Kobayashi is believed to have suggested at the Keidanren to "have Toshiba in the race" because he had believed the industry needed more

\textsuperscript{161}Interview, former Chief of the Space Development Section, Science and Technology Agency, 21 July 1994.

\textsuperscript{162}Johnson-Freese, 1993, p. 77.

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competitions.\textsuperscript{163} The philosophy is not simply an abstract norm but could be a concrete guide for action at the working level. Two rival corporations in the applications satellite industry -- NEC and MELCO -- have been practicing the art of opportunity sharing in many occasions. For example, in the competition for the NASDA's telemeter receiver system in 1967, the two companies were caught in deadlock. To solve this problem, according to the NEC manager then in charge,

I met with Mr. Murao (MELCO manager in charge) and informally suggested that we divide the project into two: the antenna unit and the receiver unit. This proposal was accepted. For this purpose it was decided that NEC and MELCO each bear the costs... This divided bidding formula (bunkatsu hatchū hōshiki) came to have great influence on other competitions later.\textsuperscript{164}

As to the formula of opportunity sharing, Suzuki Teruo, MHI's Manager of Space Technologies, offers a summarizing comparison between aircraft and aerospace industries. The aircraft industry traditionally takes the formula in which one single "prime contractor" creates and manages a cooperative working body. For example, in developing and producing prototype aircraft, "joint design teams" (kyōdō sekkei chimu) are installed between prime and sub-contractors. Within these teams, then, designing methods and data are all opened to be accessible for member firms.\textsuperscript{165} This primer-led team work formula is possible

\textsuperscript{163}Interview, former Director, Ishikawajima-Harima Heavy Ind. Co. Ltd., Tokyo, 31 August 1992.

\textsuperscript{164}Nihon Denki Kabushiki Kaisha, 1987, p. 113.

\textsuperscript{165}T. Suzuki, 1992, pp. 42-44.
because major Japanese aircraft makers -- MHI, KHI, FHI -- are all mature (with long traditions) and homogenous (due to the same technologies they imported from the US and shared among themselves) in technologies. Even though Suzuki Teruo did not mention satellites (because he is not concerned with them), this primer-led team work formal is also found in satellite industry.

V. INTERPRETATIONS AND CONCLUSIONS:

THE IDEOLOGY OF TECHNOLOGICAL MASTERY AND THE NORM OF MANAGED COMPETITION

In the above two episodes of opportunity sharing in the application satellite and launch vehicle markets, the role of government proved to be an important factor in the entire history of the development of aerospace programs. The Japanese government has been no doubt 'strong' in the sense that it has resources and leverage. Compared to other advanced economies, the Japanese government agencies such as the JDA and the NASDA have more influence on how markets are organized. The aerospace industry may prompt one to conjure up the image of 'strong and prescient' government determined to promote a high-technology, strategic industry. Concrete events and developments, however, indicate something different. For instance, the much belated, single-piece "aerospace policy" arrived in 1978 in the name of the "Fundamental Policy of Space Development" (Uchû Kaihatsu
Seisaku Taikō). The reason that it arrived so late was that the space industry establishment had been first lost in the dark, groping for what to do. In other words, it was not decided who does what; or any feasible work sharing formula was not visible.166 This observation is valid when we consider the movement to make a long-term policy had begun only after the orientation was settled for the N series rockets. The Fundamental Policy since then has been revised twice in 1984 and 1989, adding basically two abstract items such as commercialization of aerospace programs and new aspects of international cooperation, especially in the environment area.167

Market divisions and work sharing have not been determined based on the planning, design, or 'prescience' of the Japanese government. To the contrary, government policies have been incomplete, expedient, and dependent upon private sector's expertise and support. Ironically, the Japanese aerospace industry has developed through timely "accidents" rather than according to clear-cut plans. This weakens, if not refutes, the argument that Japan operates on plans. What we should pay attention to is not the exactness of plans and policies but the

166 Similar point is made by Chiku, 1992, p. 18.

167 The Fundamental Policy consisted of three major principles. First, the balance between social needs and the national capability was stressed. Second, a grand goal was set at mastering space technologies and developing at home. Third, the harmony with international space activities was emphasized. For a detailed account, see Chiku, 1992, pp. 18-25.
determination which lies behind such plans.

This does not mean a lack of determination. The Japanese government’s determination was strong. One factor for such strong determination might have been the sense of crisis and threat. But this sense of crisis and vigilance did not translate into coherence and prescience of public policy. As Chiku notes, "the aerospace policy of Japan is quite different from the counterpart of the United States. It is lacking the precision and is filled with ambitious goals so vague that one might wonder if it ought to be called 'policy'." 168 Eberstadt also observes the lack of focus of the Japanese government in aerospace development. 169

SAC, for instance, was not able to provide any sensible policy plans or positions regarding the Johnson proposal. 170 For another instance, the lack of government coordination is found from the motivation behind MPT's submission of the 3-year plan to develop observation satellites in 1967. The plan was prepared and submitted "not to be late in riding the bus, i.e., not to be excluded from aerospace development budget allocation." 171 Inconsistency, and the lack of confidence, reached its climax around 1980, particularly at the time of the

168 Ibid., p. 7.
171 Kishōchō, 1988, p. 2.
failure of Ayame-II satellite. Around this time, the Japanese satellite industry was described to be "now standing at the crossroad" towards a total failure or existence.172

The Japanese government not only lacks prescience but also is dependent on the private sector and is, hence, expedient. The public and private sectors were mutually dependent and consenting.173 Considering that the Japanese establishment has an ideology, if not strategy, towards obtaining needed technologies, it was rather natural that the grand goals of indigenous development of both rockets and satellites was given up one-by-one as we have seen already. In the rocket technology, the decision was made in 1970. As to satellites, SAT had resisted against importation a little further. But the declaration of withdraw from domestic development for satellites was also made in 1974 by SAC. The only valid explanation SAC could offer was the withdrawing from the heading toward Japan-made rockets and Japan-made satellites would mean "economic merits" for the country. But it was already known by this time that NASDA kneeled down in the face of pressures from NHK and the LDP members specializing in the communications industry (tsūshin zoku).174

Even when the Japanese government has in general, clear-cut

172The Yomiuri Shimbun, February 27, 1980

173For the notion of "reciprocal consent" between the government and businesses, see Samuels, 1987b.

174See Mainichi Shimbun, March 14, 1974.

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policy objectives, they are often expediently made and even sometimes rhetorical. Implementation is -- or is designed to be -- dependent on the resources and commitment of private enterprises. In some sense, expediency and contingency would stand for the mobilizing nature better than determinacy and rigidity. In the area of R&D, most common evidence for government expediency and dependence is found in the permanent lack of government budget for R&D in the aerospace industry. The lack of government budget was thus a good excuse of limiting the number of bidders who were going to be associate primers. Therefore, both government and private firms in the aerospace industry have a priori expectation of nominal government financial support and of the loss in R&D on the part of firms. These built-in factors would inevitably invite extra-market considerations in decision making of a comprehensive kind.

As to the controversy that Japanese government has lacked coherence and competence in aerospace development, some may refer to the power of the Space Activities Commission (SAC). As the consulting body to the office of prime minister, SAC is believed to have the highest authority on aerospace development affairs. Like other councils for government agencies, SAC consists of the members selected from government, academia, and the mass media. More specifically, the typical composition is as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>bureaucrats</td>
<td>8</td>
</tr>
<tr>
<td>national research organizations</td>
<td>7</td>
</tr>
<tr>
<td>university professors</td>
<td>9</td>
</tr>
</tbody>
</table>
others (mostly journalists) 5 members.\textsuperscript{175}

But some are bluntly critical of the incompetence of the deliberation councils, particularly SAC. A former member of the SAC was candid enough to point out that most SAC members attend the SAC sessions "to learn about new aerospace developments and rubber-stamp the decisions made by bureaucrats."\textsuperscript{176} A similar opinion is expressed about "intellectuals" (meaning university professors and journalists). A manager at Toshiba suggests that university professors learn (rather than provide counsel and judgement) from SAC and industry, but manufacturers need them, not for their knowledge but for their name values.\textsuperscript{177}

A. Politics, Not Policies

When the government is equipped with goals and aspirations but lacking clear-cut policies and visions, this can lead not only to expediency but also to political struggles. The conflict between the science camp and the applications camp, represented respectively by Itokawa Hideô and Nakasone Yasuhirô, illustrates this. The early 1960s were a golden period of aerospace

\textsuperscript{175}Yato, 1983, p. 27.

\textsuperscript{176}Interview, Science Editor, Nihon Keizai Shimbun Sha, Tokyo, 3 November 1992.

\textsuperscript{177}Interview, Senior Researcher, Space Systems Development Division, Toshiba Corp., Tokyo, 17 June 1994.
development in which NASDA and the University of Tokyo were engaged in a full "rocket-launching race" (uchiage kassen). The race was now a competition between the "applications camp" consisting of STA and industry and the "science camp." The race was also one between MOE, STA, and to some extent MPT (which had Radio Research Laboratory; Denpaken). A NASDA history describes this competition as "star wars" between the Tōdai and STA.\(^{178}\)

A key point of conflict was the idea of "forming a leading aerospace-p promotion agency that would be supported by the central government."\(^{179}\) The Nakasone Design had been backed by the industrial -- not science -- community.\(^{180}\) As to this matter, SDC issued its proposal on "the Establishment of Space Development System" (uchi kaihatsu taisei) in 1963. In this proposal, it was recommended that MOE would dissolve "developmentally" (hattenteki) the Institute of Industrial Sciences (IIS; where Itokawa was the power center) into the

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\(^{180}\)For instance, the Aerospace Technology Council (kōkū gijutsu shingikai) proposed the development of liquid engines in its reply to STA's request for advice. The reply stated that research on a large-scale, liquid-engine was needed, and for that end, a large-scale research budget was also needed. The reply further stated that, even though expanding university research was important, diffused space research efforts ought to be concentrated under government leadership. It also said that a government agency ought be given the authority to monitor all of these research activities. This reply was clearly one to be welcomed by the industry oriented toward applications (Nihon Keizai Shimbun, April 2, 1958).
Aerospace Research Institute (ASRI).\textsuperscript{181} It was also recommended that STA would slate SDPG. Until this time, the Tokyo University's ASRI was stronger than SDPG. In terms of budget, while the former had used about 2 billion yen in 1964, the latter's budget had remained at several hundred million yen.\textsuperscript{182}

This movement for unification was met by serious opposition from the University of Tokyo. Particularly the research group headed by Prof. Itokawa called this move a "control on research" (\textit{kenkyū tōsei}). There were also political opposition against unification. For example, Prof. Kaneshige Kangurō of the University of Tokyo, Chair of SDC at that time, opposed it on the ground that "zero plus zero is zero" implying that imported technologies would not lead to any meaningful industrial basis

\textsuperscript{181}The SDC announced its opinion on a new space development objective in the following terms:

Space development so far has been carried out by research organizations and universities. But is this research system desirable when the space research demands large-scale activities? It is time that we gathered these academic research efforts to build a new system. As in the case of nuclear development research, it is desirable that research allocation and administration of space research be carried by a government agency in a unified way (\textit{Nihon Keizai Shimbun}, February 5, 1963; emphasis added).

\textsuperscript{182}Uchū Kaihatsu Jigyō Dan, 1989, p. 6. The official missions of the newly created SDPG were "to make 5-year plans for space development and to deal with rocket launches" (Ibid., p. 9). But it was also made clear that SDPG would focus on the development of liquid-fuel engines and guidance technology. The relationship between Tōdai's ASRI and SDPG was not bad at that time. For instance, Prof. Takagi of ASRI was appointed as a division head of SDPG in November, 1964 at the request of STA (\textit{Mainichi Shimbun}, November 28, 1964).
unless there is solid domestic research. But the force majeure was for the development of liquid-fuel engines.

It appears that the Keidanren was neutral, at least on surface, as to the growing conflict between the applications camp and the science camp. One good piece of evidence is found the action taken by Keidanren in 1965. In July, 1965, JRDC installed the Space Development Council (SDC) within itself and named an executive manager of Prince Motors as SDC's chairman. The pronounced goal of the Committee was to "immediately respond to the needs of Tokyo University Institute of Industrial Sciences' (seisan gijutsu kenkyushō) satellite launching plans and STA's aerospace development plans." For this purpose, the Committee pledged to "strengthen" development and production capacities of domestic firms. What JRDC intended to do exactly was to unify and coordinate (ippō ni matome) the activities of R&D centers at the rival firms, and thus get them cooperate with each other. The attempt to manage the industry was conceived against the background that consignment/procurement

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183 Asahi Shimbun, 1 April 1967.


185 By this time, indeed, major Japanese space firms had opened their own R&D centers in one form or another. For example:

Prince Motors Aerospace Business Division (Uchū Kōkū Jigyō Bu)

MHI Space Machinery Development Bureau (Uchū Kiki Kaihatsu Shitsu)

IHI Space Development Research Bureau (Uchū Kaihatsu Kenkyū Shitsu)
orders from two major sources of work -- University of Tokyo's IIS and STA -- came to expand rapidly.

The power balance came to be disrupted in favor of the applications camp. The loyal members for the Todai aerospace research team (such as NEC and MELCO) were forced to turn their back for the sake of securing the opportunities to learn and master new aerospace technologies. The liquid-fuel rockets were not only expandable in size so they could carry heavy payloads such as satellites but also require sophisticated guidance; on the other hand, the solid-fuel rockets can be maneuvered ballistically and thus did not require sophisticated guidance. For this technological reason, the Japanese firms could not help but shy away from Tōdaï research, which not only had introduced to the whole new world of aerospace industry but also had been feeding businesses still.¹⁸⁶

Nakasone's activism in industrial development was conspicuous in the aircraft, rocket, and aerospace industries.¹⁸⁷ Nakasone's enthusiasm in, and activism for, propulsion-related industries can be explained only partially by his patriotic, hard-line nationalism. Some interpret his

¹⁸⁶In particular, it meant they had to turn their back on Prof. Itokawa of Tōdaï.

¹⁸⁷As Richard Samuels observes:

Nakasone strongly advocated an independently armed Japan... It is no surprise that the Defense Production Committee was delighted with the appointment; in 1959, as head of the Science and Technology Agency and chairman of the Atomic Agency Commission, Nakasone had worked with Keidanren to champion the development of rockets (1994, p. 173).
activism in terms of the political rewards he could reap from the industry, particularly in the form of political funds.\textsuperscript{188} It would be virtually impossible to investigate and compile the data on Nakasone's monetary harvests from the propulsion industry. There is one indirect measure, however. As suggested in Table 6-5, aerospace-related (including rockets) budgets had begun to increase rapidly in STA and JDA, the two ministries in which Nakasone had been powerful and directly engaged, while MOE's (i.e., Tōdai's) budgets showed only a linear upward curve. Making a direct causation between expanding aerospace revenues of engaged firms and their contribution to Nakasone's political purse would be difficult; but, given the Japanese political culture, it seems possible to reason that there had been a rapidly growing source of political donation in the propulsion industry.

When there is a winner, there is also a loser. When the game was played on the field of ideology and philosophy, sanctions for non-conformers could be harsh. The most paradoxical entity in the history of aerospace development in Japan is the single individual named Professor Itokawa Hideō (and his followers at the University of Tokyo). His role and magnitude was so important as to exceed the boundary of ordinary imagination. In short, he had launched the first missile in

\textsuperscript{188}For instance, Itokawa Hideō, the founding father of the Japan's rocket research, believes that the industry had been Nakasone's single largest source of political funds and he naturally was the single largest benefactor of the funds springing from the expanding industry.
Table 6-5
SPACE BUDGETS: 1955-1969
(in 100 million yen)

<table>
<thead>
<tr>
<th>Year</th>
<th>STA</th>
<th>MOE</th>
<th>MITI</th>
<th>JDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>0</td>
<td>17.4</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>1956</td>
<td>0</td>
<td>61.5</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>1957</td>
<td>0</td>
<td>120.0</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>1958</td>
<td>0</td>
<td>175.0</td>
<td>0</td>
<td>428.2</td>
</tr>
<tr>
<td>1959</td>
<td>0</td>
<td>84.8</td>
<td>4.8</td>
<td>1,322.2</td>
</tr>
<tr>
<td>1960</td>
<td>37.9</td>
<td>167.5</td>
<td>5.0</td>
<td>1,069.5</td>
</tr>
<tr>
<td>1961</td>
<td>72.2</td>
<td>259.2</td>
<td>10.1</td>
<td>1,258.2</td>
</tr>
<tr>
<td>1962</td>
<td>317.1</td>
<td>326.6</td>
<td>16.0</td>
<td>757.1</td>
</tr>
<tr>
<td>1963</td>
<td>705.2</td>
<td>528.0</td>
<td>9.5</td>
<td>961.7</td>
</tr>
<tr>
<td>1964</td>
<td>720.7</td>
<td>1,224.2</td>
<td>75.4</td>
<td>5,441.5</td>
</tr>
<tr>
<td>1965</td>
<td>877.3</td>
<td>2,000.4</td>
<td>81.4</td>
<td>3,709.4</td>
</tr>
<tr>
<td>1966</td>
<td>1,007.3</td>
<td>2,700.4</td>
<td>143.5</td>
<td>5,191.5</td>
</tr>
<tr>
<td>1967</td>
<td>1,850.7</td>
<td>3,951.3</td>
<td>195.5</td>
<td>5,435.0</td>
</tr>
<tr>
<td>1968</td>
<td>5,143.4</td>
<td>3,574.4</td>
<td>153.0</td>
<td>9,596.1</td>
</tr>
<tr>
<td>1969</td>
<td>10,756.9</td>
<td>3,624.4</td>
<td>167.3</td>
<td>16,748.9</td>
</tr>
</tbody>
</table>

Source: Kihara, 1975, pp. 146-7.

* The figures include government bonds issued for specific funding purposes.
Japan, and he was the one who called such firms as MHI, MELCO, Nissan, NEC, and Nippon Oil and Fat, among others, to the aerospace industry when their managers and researchers had no sensible ideas of what an aerospace researcher was.

But Prof. Itokawa did not conform to the norm and ideology shared by industrial managers and researchers and thus had to be expelled from the aerospace community -- by the accumulated and assembled power that the companies he had taught.\textsuperscript{189} His staunch attachment to solid-fuel engines, his stubborn opposition to imports of US technologies, and his power to attain both were great hindrances to policymakers and industrial managers who were anxious to fabricate rockets and satellites that embody frontier technologies.

Key points of criticism of Prof. Itokawa and his colleagues were the tendency of "privatizing" (shibutsuka) of national aerospace research and "irrational" uses of budget.\textsuperscript{190} Other than the alleged claims of inappropriate uses of research budgets and the expansion of Todai research team's influence over the industry, there were some political mistakes made on the part of the Itokawa research team. In 1965, C. Itoh had exported the

\textsuperscript{189}Many charges were due to personal traits. Some journals had described him as a homosexual, a verdict that can kill a person in the Japanese industrial society.

\textsuperscript{190}In 1964, the Todai research team was even warned by government audit office for their irregular use of budget (Asahi Shim bun, 5 February 1965). At the later stage, the attack from the industrial circle became very harsh -- to the point of employing personal "black-propaganda" attack on Prof. Itokawa that he has homosexual traits.
Kappa-8 type rocket, developed by Tōdai and Nissan Motors, to Indonesia. This act came under heavy political attack for the reason that the rocket could be used for military purposes.\(^{191}\) This incident provided two good opportunities for the aerospace policy-industry establishment. First, it precipitated the need for unification of national aerospace development efforts. Second, it also provided a basis to invite US intervention because Japan's aerospace development had begun to have military implications, to whatever degree.\(^ {192}\) In 1965, Tōdai scholars too yielded to agree that they would not develop rockets of the diameter in excess of 1.4 meters.\(^ {193}\) At that time, it was called a "declaration of defeat" of Tōdai Professors Itokawa and Takagi to politicians of Nakasone (LDP) and Oka (STA).\(^{194}\)

\(^{191}\)Another charges were concerned with commercialization in another country and whether it was acceptable that the product of research funded by tax money is used for trade purposes (Asahi Shimbun, 6 August 1965). Oka, a Diet member, made it an issue to be discussed in the Diet.

\(^{192}\)Asahi Shimbun, 6 August 1965.

\(^{193}\)Asahi Shimbun, October 8, 1965. Next year in 1966, in the face of strong attacks, Prof. Itokawa, who opposed the zaikai and the idea of the Nakasone Design, had to go under a testimony at the Diet committee (Mainichi Shimbun, February 25, 1966). By this time, Prof. Itokawa was even criticized for capitalizing on the contract relationship with procuring firms on behalf of personal interest. A major accusation was that he pressed the explosives makers to buy the patents (which were obsolete). The use of budget became a political issue again in March, 1967 on the ground the US was dispensing tax money to unnecessary reserve parts (yokena yobihin). At the Lower House Diet Budget Subcommittee session, Nikaido, the STA minister, again emphasized the need to unify national space development efforts under the jurisdiction of STA (Asahi Shimbun, March 29, 1967).

\(^{194}\)Nihon Keizai Shimbun, 26 February 1966.
In May, 1966, too, the consensus for the unification of national aerospace administration under the jurisdiction of STA was taking shape in the Diet Lower House's special subcommittee on science and technology policy and subcommittee on aerospace development chaired by Nakasone.\textsuperscript{195} The same year, the aerospace business community also expressed that each firm would beef up the R&D investment and the industry needed to "unify their windows" (madoguchi ichigenka) for international business and negotiations in order to prepare for future international competition.\textsuperscript{196}

\textsuperscript{195}Nakasone Yasuhirō now the chair of the Diet's Lower House subcommittee on space development, submitted a report to the Diet. In that report, Nakasone recommended that (1) government policy on space development be "unified" (ichigenka) and (2) the national space development administration be unified (ichigenka).

\textsuperscript{196}It was also at this time, in May, 1966, that Tanegashima Island was already selected as test launch ground. The selection of Tanegashima Island as a new (and expanded) launch pad meant more at that time: the coming of another important politician who believed in the cause of national unification of space administration. Nikaidō Susumu had assumed the STA ministership in January, 1966 and stayed in the job until the end of 1967. Nikaidō happened to have two important profiles to be employed fitfully at that time. First, in order to officially acquire the launch site at the Island, the Japanese government had to go under tiring and agonizing negotiations with fishermen of the island. Nikaidō was a Diet member selected from the third electoral district of the Kagoshima prefecture that includes the Island. Therefore, even though it was not clear whether he was appointed at STA for this reason or not, he was clearly the right man to do the job. Actually it is widely believed that Nikaidō wanted to deal with the fishermen from his own turf (jimoto). A second unique profile of Nikaidō was his pro-American inclination and reputation. A rare US graduate degree holder (from the University of Southern California) among LDP politicians, he was second to none in supporting the policy to promote business relationships with the US space industry.

By this time that the applications camp was trying its best to move from a small Nijima launch pad (out of the Tokyo Bay) and the choice of the Tanegashima Island was probably too lucky to miss the chance. As for pacifying Tanegashima fishermen, another important political figure was there in time. Suzuki Zenko was not only
In April, 1967, the launching of the Hinomaru Satellite on the rocket developed by the University of Tokyo proved a failure. This failure was another blow for the already faint Itokawa team.\textsuperscript{197} The same failure was then repeated in 1969. At this critical juncture, however, Prof. Itokawa seemed to have committed a mistake that was probably un-Japanese. Prof. Itokawa blamed the makers for the failures.\textsuperscript{198} More than that, however, his action generated great anger among the industry because, at least the researchers of the industry believed, Itokawa was dependent on makers for both knowledge and funding.\textsuperscript{199}

\footnotetext{197}Nihon Keizai Shimbun, 13 April 1967. On 29 March 1967, a major daily newspaper reported that Prof. Itokawa had wasted money for purchasing unnecessary items.

\footnotetext{198}Nihon Keizai Shimbun, 23 September 1969. In the society in which taking the moral responsibility for failures without justification is a virtue, Itokawa’s move was a awkward one.

\footnotetext{199}The cooperation between NASDA and the University of Tokyo became visible only as late as 1977. By this time, the hegemony by the industry and dominance of STA in space administration were quite clear. It was reported on December 15, 1979 that Tōdai was allowed to enlarge the rocket under development, from 1.4 to 1.6 meters. But the Tōdai team did come back. In 1974, the Todai team succeeded in developing the guidance unit for the Mu 3-C rocket (Yomiuri Shimbun, 17 February 1974). Using this new spring board, then, three years later, in 1977, the Tōdai began to cooperate in the development of the liquid-fuel engines, the realm traditionally reserved for NASDA. Following this success, it was allowed in 1979 to research on the rockets of diameter in excess of 1.4 meters -- now 1.6 meters -- for enlarging M-series rockets (Nihon Keizai
B. Managing Opportunity Sharing

Lack of vision, dependence on the private sector, and expediency of the Japanese government can be also witnessed to by the very existence of the managing body of the market relationships. The existence of the actor or entity that assumes the function of the manager of market competition emerging out of the private sector could explained by the weaknesses of both government and market functions.

One STA official likens the role of the managing institution to that of the manager (oyakunin) of the traditional Japanese government agency.²⁰⁰ It is suggested that there two kinds of managing organizations in the Japanese aerospace industry, both of which take the form of "special corporation" (tokubetsu hōjin). One kind is the quasi-governmental special corporation (seifukei tokubetsu hōjin). The other kind is the special corporation representing a group of private firms (minkankei tokubetsu hōjin). A critical difference lies in the fact that the former represents the government and therefore can spend budgets giving works to private corporations (kaneo nagasu); in contrast the latter does not represent and thus has no access to the usage of government budgets. But, most importantly, a common

²⁰⁰ Interview, Senior Researcher, the National Institute of Science and Technology Policy, STA, Tokyo, 17 March 1992.
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function between these two types of managing institutions is that "conference is possible [without violating the law] and thus work sharing among competing member firms can be arranged."

Formally speaking, NASDA is government-financed R&D organization. It is a "project manager" as well as "owner cum operator" rather than a "research institution." Key technologies are developed by consigned private firms. As to the role of NASDA, a most fascinating revelation was that the pre-war Navy's arsenals were much studied as models inside STA. It is fascinating to be reminded of a memory of a leading figure in the Japanese aerospace industrial community. According to a long-time Head of the Space Development Section of the Science and Technology Agency (STA), the Imperial Navy's Air Arsenal (kaigun kūgishō) was the model organization for the National Space Development Agency (NASDA), the Japanese equivalent of NASA. But it is not only the organizational framework that the Japanese aerospace community borrowed from the experiences of the pre-war Navy and Army; the most important borrowing were the

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201On the other hand, USA's NASA has a more direct roles. It uses space firms services and acts as "anchor tenants" (Wells and Hastings, 1991, p. 12).


203Two industries, space and nuclear, belong to the jurisdiction of STA, not MITI.

204For a detailed English account of naval and army arsenals, see Samuels. 1994.

ways to promote R&D but putting it in the middle ground between
the public and private sectors so that the two can interact with
and depend on each other.

In the foregoing discussion, I suggested that the real and
immediate determinants of opportunity sharing are not government
policies or visions even though they have environmental
influences as they determine the entire structure of the
industry. More immediate reasons for inter-firm relationships
are to be found from the frameworks for decision making at the
firm level.

If government activism was not a primary determinant of
opportunity sharing in the aerospace industry, economic motives
to maximize corporate profits or dividend were not primarily
responsible either. Success is a subjective notion. When Japan
had succeeded in building an entirely "domestic" H-II space
launch vehicle to be driven by the "domestic" LE-7 and LE-5
engines in 1992, some American observers expressed friendly
corns about its prospects for commercialization. In one
researcher's words, the "H-II may end up a launcher 'all dressed
up with no place to go'."206 Such rational economic
considerations as launch marketability and cash flow projections
are legitimate ones in the mainstream, Anglo-American mode of
corporate thinking. In the Japanese context, however, these
pressing economic considerations may be irrelevant or at least

206Johnson-Freese, 1993, p. 129.
only secondary in importance. It seems clear that current economic explanations such as profit maximization, transaction cost minimization or risk minimization are not crucial determinants. When the corporate decision-making elite believes that their corporations are public organs, their decisions can be much less 'corporate' in their orientation and motivation.

The episodes of opportunity sharing, in both divisions of market and technology sharing through joint projects, in the Japanese aerospace industries demonstrates that opportunity sharing was largely the function of individual passion and commitment as well. The aerospace industry was set in motion neither by a strategic vision of government nor by business calculation. Business decisions regarding market entry or initiation of R&D were made casually and decentrally in many cases. In the first place, the genesis of the Japan’s aerospace industry was more through an accident than by a design. The small event of test-launching the 23 centimeter-long "pencil" rocket in 1955 was the beginning of not only aerospace research but also aerospace businesses. The beginning of the aerospace development in Japan was humble. Research on the guided missile, which served as the hothouse for the current aerospace R&D, in leading corporations had started with nominal corporate support and planning. For instance, the researchers of such leading companies such as NEC and Mitsubishi Electric obtained tools and equipment for the target plane research from used parts stores in
the Akihabara section of Tokyo that stocked and sold reassembled out-dated US Air Force equipment.\textsuperscript{207} Considering these poor initial conditions, launching a "100-percent" domestically made rocket carrying a "100-percent" domestically made satellite into aerospace was no less a technological feat than the "Zero Fighter" which made Admiral Maehara break into tears "on seeing the Zero perform for the first time, declaring 'I feel as if I live in an advanced nation'."\textsuperscript{208}

In the aerospace industry, acquiring and mastering key technologies required for launching and guiding space vehicles was the supreme goal of the concerned elites in both the private and public sectors. When corporate managers agree to goals and aspirations that are shared across companies, relationships among corporations can be crucially affected by non-economic determinants. At the intra-company, division level, engineers and research staff have considerable autonomy. At Mitsubishi Heavy Ind., for instance, the "do-whatever-you-want" (\textit{yaritai koto wo yaru}) policy in research and development has been a tradition since the pre-war years. Even in 1950, researchers at MHI's Nagasaki Ship Yard could spend more than a couple of hundred million yen on rocket engine research even without the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{207}Nihon Denki Kabushiki Kaisha, 1987, p. x.
\item \textsuperscript{208}Cited in Samuels, 1994, p. 117.
\end{itemize}
\end{footnotesize}
approval of the director level manager.\textsuperscript{209} In relation to the freedom enjoyed by Japanese managers and researchers, Johnson-Freese characterizes the "space" people as a unique group of corporate elites. According to her, "One Japanese official, admitting that he was overestimating, speculated that the cost of aerospace activities in Japan could be brought down by 99% if the work was done by the commercial people within industry rather than the 'space' people. The clear implication is that there exists a difference between 'real' MHI, FHI, MELCO or whichever ... and the space people. The space people for obvious and understandable reasons do not see their works as 'going anywhere' commercially."\textsuperscript{210}

Such mental framework or the culture of the industry may explain the continued existence of the aerospace industry itself, which remains quite unlikely from a commercial perspective. From the very beginning, it was clear that there would be virtually no or only nominal domestic markets for rockets and satellites. It was difficult to expect to capture foreign markets that were already dominated by the United States and European countries. The government procurement market, the single largest market of the industry, was limited in size from the very beginning; and the share of aerospace-related expenditure ranged from 5% to 8%

\textsuperscript{209}Interview, Chief Engineer, Nagoya Space Systems Works, Mitsubishi Heavy Ind. Co., Nagoya, 27 January 1995.

\textsuperscript{210}Johnson-Freese, 1993, p. 77.
of the annual government budget. In addition, although the value of each aerospace item is large, mass production is out of question due to sheer infrequency of orders.

Naturally there is a shared belief that if Japanese corporations begin to fight each other to death, there is no place to escape (nigeru toko ga nai) because the country is small, and the industries are also small. Another former senior manager puts it that there is no emergency exit (sukui michi) for the losers. In reality, the aerospace-related divisions of leading aerospace firms have no serious stakes in the aerospace businesses at the entire company level. On average, the orders leading heavy-industry or electric firms get from the aerospace industry are only about 1% of the entire orders they get annually, amounting in average to approximately 20 billion yen at the top five aerospace-related firms. Despite this small share of sales from aerospace businesses, however, the total number of employees assigned to aerospace businesses in each major firm is about 1,000 people, which is 3%

211 Interview, Executive Director, National Space Development Agency, Tokyo, 12 August 1992.


213 These figures are offered during the interview, Executive Director, National Space Development Agency, Tokyo, 12 August 1992. The top five space-related firms are Mitsubishi Heavy Industries, Ishikawajima-Harima Heavy Industries, Mitsubishi Electric Corp., NEC, and Toshiba Corp.
to 5% of the entire work force depending on corporations.\textsuperscript{214} NEC, the largest and most successful satellite vendor, for instance, recorded in the past several years 20 billion to 30 billion yen in aerospace-related sales, which is about 1% of the total annual sales that ranges between 2,800 to 3,100 billion yens annually. In terms of personnel, however about 1,500 employees are engaged in the aerospace businesses, which is about 3.75% of the entire NEC work force.\textsuperscript{215} A NEC manager in charge of aerospace businesses describes the aerospace industry as the "palanquin carrying" (omikoshi keiei) in which the members share burden, risk, and benefit.\textsuperscript{216}

\textsuperscript{214}Interview, Executive Director, National Space Development Agency, Tokyo, 12 August 1992.

\textsuperscript{215}Interview, Chief Manager, Space Development Sales Division, NEC, Tokyo, 7 February 1995.

\textsuperscript{216}Interview, Chief Manager, Space Development Sales Division, NEC, Tokyo, 7 February 1995.
CHAPTER SEVEN

CONCLUDING DISCUSSIONS AND
THEORETICAL IMPLICATIONS FOR FURTHER RESEARCH

I. SUMMARY OF HYPOTHESIS TESTING

In the foregoing chapters, I argued that in Japan the economic motivation to maximize corporate profits (and hence shareholder dividend) is not a primary determinant of forming and maintaining cooperative arrangements among rival corporations. Japanese corporations are, of course, no exception in that they are leading agents of modern capitalism. Nevertheless, there are many situations which indicate that they also exist and operate as social organs commissioned with the mandates that go beyond the pursuit of private interests. Cooperative financing, for instance, can be justified ex post facto in such economic terms as reducing risk or transaction costs; but these economic motives prove to be secondary to non-economic norms to the extent that the subjugation of corporate motives to broader social objectives is closer to the rule than the exception. For the Japanese corporations we studied, the real source of decisions for cooperative financing was the norm that commercial banks, as social organs, ought to fulfil the social responsibilities, such as the ensuring stable supplies of funds for industrial corporations.
The social nature of Japanese joint-stock corporations appears to be stronger in manufacturing firms that are engaged in strategic industries. With the case study of aerospace research and development, I demonstrated that mastering frontier technologies is the dominant goal over standard corporate considerations. Profit or dividend maximization is only secondary to the goal of technological mastery for leading Japanese aerospace firms. Important decisions on core corporate matters such as market entry, participation in collective enterprise, or the sharing of valuable economic opportunities or resources with rival corporations were made by salaried employees cum strategic managers who base such decisions on the norm they inherit and share as a class. In view of the nature of the Japanese corporation, the non-economic nature of decision making may be a logical truism. When corporate decision makers do not have to worry about 'fiduciary' obligations and instead become 'strategic' managers, economic determinants cannot be categorically important.

As public organs, then, do Japanese corporations behave according to government policies and visions? Is market competition among rival corporations managed by the government? As I suggested in Chapter 6, the Japanese government appeared to lack clear policies or "visions" regarding the development of the aerospace industry, an industry of immense strategic value. On the contrary, the government had to rely on the private sector to
accomplish its social objectives. A 'strategic' industry, the aerospace industry in Japan is the embodiment of the incidents that reflect dependency, discord and expediency of the Japanese state's visions and plans. Even though the government (particularly the procuring agencies) has great influence on the entire environment of business such as the market structure, relationships among rival corporations are managed by themselves. This finding calls statist theory, another powerful explanation of managed competition, into question as well. The case study of aerospace R&D reveals evidence that is contradictory to the widespread view that the Japanese state is strong, coherent and prescient. Even though this study owes much to the statist perspective, it also questions the validity of the characterization of the Japanese state as the ultimate coordinator of market relationships and resource allocation.

The Japanese government proved instead to be indeterminate, lacking coherence, and dependent on private actors. As for the relationship between the public and private sectors, therefore, I agree to the characterization suggested from the 'relational' perspective. Richard Samuels offers a relational interpretation with the notion of "reciprocal consent."¹ According to him, autonomy and jurisdiction of both state and business actors are not given a priori but achieved by their dynamic interplays and negotiations over long periods. The two sectors are mutually dependent and sensitive to changes in each other. Samuels's

¹Samuels, 1987b.
relational perspective was further elaborated upon in his recent study of "technonationalism" in Japan.\(^2\) Against a conceptual backdrop of state-business reciprocity, Samuels now revealed how politicians, bureaucrats, capitalists, and business managers become the members of a community, either by choice or accident, that has a shared set of aspirations and objects of self-realization. While Samuels is concerned with the logic and process of the reciprocity between public and private interests, Daniel Okimoto focuses on the concrete institutions or organizations as loci of such reciprocity. His notion of "intermediate zones" between the state and businesses (e.g., business associations) is a good summary of his view.\(^3\) John Haley's notion of "governance by negotiation,"\(^4\) and Michael Young's phrase of "private ordering"\(^5\) also point to the negotiated power and jurisdiction of the government and businesses.

In the situation that neither the market mechanism nor the government is the coordinator of market relationships, how can markets stay orderly so that scarce opportunities are shared by private business organizations? This question has been answered in this study with the discussions of management of competition by the market actors themselves as summarized below.

\(^2\)Samuels, 1994.
\(^3\)Okimoto, 1989.
\(^5\)Young, 1984.
II. MANAGING MARKET COMPETITION

As each member participating in collaborative arrangements may have different interests, there is a need for the 'managing body' (matome yaku) that coordinates and administers opportunity sharing. In the foregoing chapters, I have suggested three different forms or entities that are involved in the management of market competition: (1) industry associations; (2) business enterprises; and (3) informal market organizations. These three entities are not necessarily exclusive in their roles in the management of market competition. In most cases, successful management of market competition is accomplished when all of the three kinds of entities are in presence and in cooperation with the government agency.

A. Industry Association

As a Japanese government report prepared by the Administration Management Agency (kyōsei kanrichō) aptly noted:

Japanese firms are organized into associations industry by industry, and it is difficult for them to act as outsiders. Larger firms in particular are strongly aware that they comprise an industry, and dislike threatening their own foundation by upsetting the order within their industry.6

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6Cited in Miwa, 1988, p. 496.

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The industry associations can be understood in a broader context of the business community or "industry world" (kyōkai). The kyōkai is a central locus where the norms of the corporate elite and the government elite are assimilated and shared. The key, formal institution of each community is the industry organization (kyōkai dantai or dantai). Rodney Clark regards this dantai, or "society of industry," as what differentiates the Japanese and other Western industrial systems significantly. According to him, "If there is a sum of all the differences of tendency between the Japanese and Western industrial context, it is that there exists in Japan a society of industry... What makes the use of phrase 'society of industry' .. is that the order is obvious to those involved in industry, and indeed is partly the creation of their explicit rules." 

The kyōkai or its dantai appears to have two key functions. First, it works as the locus of the norm formation or even the implementor of the industrial norm. As Clark observes, "The influence of the society is evident not merely in the way companies are organized and managers take decisions, but in far more fundamental attributes of the firms. It conditions the way people think of work, and the way discipline is imposed upon them." The Article 9 of the memorandum of the 1910 financial syndicate is a good case in point. It made clear of the collective, if informal, body's determination to discipline the

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7 Clark, 1979, p. 95.

8 Ibid. p. 96; emphasis added.
non-confirmed in such words as:

If any members violate these provisions, they will be expelled by the consent of more than two thirds of the syndicate members at the managing committee presided by the manager bank.

A similar spirit of collective discipline is found in the agreement reached among the 1946 bond underwriting members which was hammered at informal consultation (mōshi awase). A particular article of the agreement declared the participants' resolution to turn them to the ordering by public authority for discipline:

The members shall refrain from selling bonds which they have underwritten, and when they have to sell, they shall obtain the understanding of the financial authority.

A second function is the bridging between government and the private sector. Yonekura Sei-ichiro, in his study of the pre-war control councils as prototypes of current trade associations, offers an interesting notion that the industry associations in Japan function as the "receptacle" (ukezara) and implementor of public policies. For instance, in the case of the Steel Control Council, the chair of the council was accorded the status of the "leader" (shidōsha), who conveys and transmits opinions and

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9This action is similar to the "private ordering" in Michael Young's terms as opposed to the social ordering according to the law. See Young, 1984.

10Yonekura classifies the functions of trade associations into four major ones: (1) the function as pressure groups vis-a-vis government; (2) "receptacle" (ukezara) and implementor of public policies; (3) facilitation of cartels; and (4) information creation. For a detailed account of the functions of trade association, see Yonekura, 1993.
information between government and firms.\textsuperscript{11} This characterization echoes the views suggested by Rodney Clark, Daniel Okimoto, and Richard Samuels as to the relationships between the government and businesses. In the post-war periods, the illustrations of the roles played by industry associations abound. The Electric Wave Technology Association (Denpa Gijutsu Kyōkai), for instance, played a critical linkage role in determining the standard for colour television broadcasting and equipment development in the 1950s. The role played by the Keidanren and its subordinate organizations such as the Defense Production Committee were crucial in coordinating the public and corporate interests and in drafting and implementing aerospace programs.

In the area of finance, the role of the bankers' association has been important. Lending rates were controlled by the agreement among banks within the regime of the Federation of Bankers Association (FBA). In June 1955, for instance, the FBA decided on the autonomous regulation method (jishu kisei hōshiki), through which banks would maintain lending rates under a target set by the Temporary Interest Regulation Law (Rinji Kinri Chōsei Hō). Even after the introduction of the prime rates as guidelines of bank rates, the rates were discussed and regulated at FBA's consultation (mōshi awase). The abolition of moshi awase of interest rates in April 1975 did not get rid of the FBA president bank's role as the "price leader" which set the

\textsuperscript{11}Yonekura, 1993, p. 192.
standard prime rate. The FBA's power is not confined to the regulation of interest rates. There were several important incidents in which the FBA had exerted crucial influence on the rules of bank lending. Important loan syndicates were created by the FBA, mostly at the request of the government. For instance, a loan syndicate for a new electric power company was created with city banks, trust banks, and long-term credit banks. The loan syndicate then developed into a bond syndicate worth almost ten billion dollars. These massive syndicates were arranged and managed by the FBA. In November 1957, the FBA set up the Fund Coordination Committee (Shikin Chōsei Iinkai) to deal with such matters of coordination of industrial investments and autonomous regulation (among and by banks) of loans. In April 1960, then, the FBA took a bold action regarding loan coordination: It "explicitly announced its commitment to loan syndication as a means of rationing credit because any independent loan adjustment by each bank will not bring successful results."  

The industry association can also take the form of a special legal-person (invariably zaidan hōjin) organization or a quasi-public body to be set up to perform a specific function. Without this managing or facilitating institution, no matter its form or

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13City banks each contributed five billion yen, and trust and long-term credit banks, one billion yen each.


15Ibid.
title, opportunity sharing as a form of collective behaviour would in many cases constitute illegal trust or conference in the Anglo-American economic sense.

B. Corporate Actors as Manager

Management of competition can be delegated to one single organization, which could be either public or private, and formal or informal. Invariably there is a private corporation that works with the public managing institution to facilitate opportunity sharing. In the case of R&D and procurement in government projects, the 'systems integrator' or 'prime contractor' takes part in competition management. The role played by MHI as the "general representative" of Japan's aerospace industry goes far beyond what a private enterprise can assume in the Anglo-American industrial society. In collaborative R&D projects, there were many incidents that several firms come to the informal conference and decide who would make the winning bid (mitsumori awase).\(^\text{16}\) The 'systems integrator' or 'prime contractor' is even sometimes visible as early as at the pre-bidding conference stage.

This formula works not only in research and development, but

\(^\text{16}\)Takeda, 1994, p. 45.
also in the operation of the co-developed equipment such as the rocket. The Rocket Systems Co. (RSC), which is a specially established legal-person organization, is a good case in point. While RSC is the formal organization, MHI, the manufacturer of the rockets works as a real inside operator. Managed competition by dual centers is found in the case of the aircraft industry as well. In researching and developing the YS-11 civilian passenger aircraft, a syndicated organization was formed by the name of Japan Aircraft Manufacturing Co. (JAMC), consisting of some two dozen private and public organizations. A majority of work, however, went to six major aircraft manufacturing firms, of which MHI again accounted for more than 50\% as systems integrator.\textsuperscript{17}

In industrial financing, the main banks for the borrowing industrial corporations often take the role of the managing bank. The managing function assumed by the corporate actor is most vividly demonstrated by IBJ in managing financial syndicates during both pre-war and post-war periods. IBJ assumed the role of managing bank (\textit{kanji ginkō}) for many industrial corporations even before World War II as illustrated in Chapter 5. Major functions of IBJ as managing bank includes (a) the role of credit evaluator for other loan syndicate member banks; (b) pump-priming the loan; and (c) selecting and adding syndicate member banks according to the size of fund needed by each industrial corporation and the amount available from the member banks. When

\textsuperscript{17}For the development of YS-11, see Samuels, 1994, particularly Chapter 7.
the pooled fund is short of the amount needed by the industrial corporation, IBJ looks for additional syndicate members, mostly from regional banks and even credit unions. Managing banks also reflect the will or policy direction of government. In this sense, both government and industrial corporations depend on the managing bank's judgements.

In performing the role of managing bank, IBJ was given considerable autonomy and power. The freedom of IBJ as managing body of cooperative financing is well reflected in the philosophy spelled out by an IBJ president in 1930. At that time, one of IBJ's important functions was to provide remedy financing (kyūsai kinyū). When he assumed his position, he insisted "Mortgage is not important in deciding on remedy financing. First of all, business is run by people. What is really important [in deciding on remedy financing] is who manages the corporation in question."16 This "human mortgage principle" (jinteki tanpo shugi) is reported to have continued throughout World War II. To IBJ, promoting businesses of national strategic importance was more important than profitable banking practices.

C. Informal Organizations

No less important than the formal organizations such as

16Kamikawa, p. 437-438.
industry associations or private enterprises are informal organizations. For instance, throughout this study, I have introduced the roles played by informal inter-firm consultative bodies called kondankai (literally, a discussion or consultation meeting) in Japan. Many kondankai are set up by the government and representatives of businesses. The kondankai plays a variety of roles. Some facilitate the formation of cartels as exemplified by the "Petrochemical Cooperation Discussion Group" (sekiyukagaku kondankai) established by MITI in 1964. The creation of financial syndicates was also planned and carried out at the initiative of the kondankai between the Bank of Japan and commercial banks in the early 1930s. It was in this kondankai that Japanese banks pledged to refrain from harmful competition among themselves. The kondankai in the financial community also worked to fight the sluggishness of securities markets: In 1947, BOJ set up a consultative (konden) body named the "Bond Issuance Regulation Council" (kisai chōsei kyōgikai). The kondankai called the "8-Bank Council" (yakōkai) of the late 1940s and 1950s was a key actor in promoting the placement of corporate bonds. The Guided Missile kondankai established by Keidanren was the very cornerstone of the aerospace industry. In informal organizations such as kondankai, rival Japanese firms do what would be unthinkable in the strict antitrust regime such as the United States. For instance, the practice of "pre-concerting" (mōshi awase) among rival corporations is not uncommon in

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19 See Chapter 5.
kondankai.

Another important case in point is the famous Japanese institution called the "study meeting" (benkyōkai) in which managers and researchers from rival corporations gather and share proprietary information. Most of the current Japanese aerospace firms were original members of the study groups, initially on guided missiles, established under the aegis of Keidanren. In the study meetings, Japanese managers tend not to identify themselves according to their organizational affiliation. Instead, they think of themselves as members of a class and hence share the spirit of cooperation and even the sense of crisis (e.g., they are behind compared to Western corporations). According to a Japanese researcher, these mental qualities induce them to talk frankly about their common concerns, paying scant attention to whether these concerns involve their companies' confidential information or not. Thus each company in the study becomes something like "a division of a huge company."²⁰ This rhetoric that each company of corporate Japan is like a division of a huge company may be exaggerated simplification of the Japanese industrial society. A key point, however, is the surprising degree of ease at which salaried Japanese managers can break down the barriers among corporations, which in other advanced industrial societies are the barriers of categorial importance in the market place.

²⁰Discussion with a senior researcher, the Institute for Future Technology (IFTEC), Tokyo, 11 August 1994.
One important point about the above organizations which assume the role of manager of market competition is that they are the central coordinators of economic mobilization, a notion which will be discussed below.

III. THE SPIRIT OF AGENCY CAPITALISM: NATIONAL ECONOMIC MOBILIZATION

What makes rival Japanese corporations share such scarce resources as business opportunities or proprietary knowledge? I argued in this study that opportunity sharing facilitated and hence matured in Japan owing to the conditions of managerial sovereignty and norm conformity. These two conditions point to a broader social tradition which continues today. The most important and underlying force which makes the above two conditions make sense even today is the continuing and compelling need for mobilization of private properties for public purposes. Here 'mobilization' does not have to bear any militaristic or expansionist connotations. Of course, the war-time economy serves as the prototype of current mobilization economy. Mobilization here involves the internal logic of the organization of the national economy. Wartime mobilization is only an extreme
form of economic mobilization.\textsuperscript{21} For instance, Daniel I. Okimoto reminded us of the non-wartime ramification of mobilization concerning the development of the Japanese semiconductor industry:

Japan's catch-up system is in some ways a "mobilization state"... Post-war Japan has been geared to achieve urgent national objectives and organized to channel resources toward those goals, with the central government in command of an assortment of effective administrative instruments. Looking back on Japanese history, one can argue, in fact, that Japan has in a perpetual state of mobilization since its opening to the West in the mid-nineteenth century.\textsuperscript{22}

The spirit underlying this continued mobilization is the sense of crisis shared by the collectivity of the political and corporate elite. In effect, it was in an absolutely peaceful time that MITI had invoked and appealed to the sense of crisis in order to cope with the alleged 'threat' of foreign capital in the early 1960s. As Chalmers Johnson acutely noted:

\begin{quote}
The press prattled on endlessly about "the second coming of the black ships," "the defencelessness of the Japanese islands in the face of attack from huge foreign capitalist power," and "the readying of the Japanese economy for a bloodstained battle between national capital and foreign capital." Sahashi himself invoked the name of the National General Mobilization Law of 1938 and said that Japan again required a "national general mobilization" in order to create an economic system that could withstand the rigors of international competition... the sense of crisis was real,
\end{quote}

\textsuperscript{21}The state of the mobilization economy as we define here is neither exactly developmental nor regulatory exactly. It is not that developmental or regulatory activism is missing from the mobilization economy. The point is that developmentalism and regulatory orientation are not rival modal concepts of mobilization. If we are forced to make a comparison with the two dominant models in terms of what state does, the state of the mobilization economy participates in the management of resource allocation rather than directs or supervises it.

\textsuperscript{22}Okimoto in Okimoto et al., 1984, pp. 97-8; emphasis added.

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and it may well have helped to motivate the economy's export performance. 23

In a similar vein, Richard Samuels comments on the Japanese sense of crisis:

Several years ago I had the chance to speak about Japan before a group in the Pacific Northwest... I tried to explain how the Japanese political economy and technology process worked. After the presentation, he [a member] asked that I sum up in just one word what makes Japan tick... My answer was "insecurity." This pervasive anxiety ... helps to mobilize millions of people each day. 24

In this situation that the sense of crisis permeates the minds of the public as well as political and corporate elite, public and corporate policies are apt to be based on, among other things, contingency and expediency.

To be more accurate about the definition of mobilization, the Japanese political economy is mobilizational because it is built on flexibility in defining and organizing the means to the ends and expediency in making and implementing policies, both public and corporate. These qualities stand for imperfectness -- not perfectness -- of plans and policies. As illustrated in the foregoing case studies, the contemporary relationships between financial authorities and private actors, those between commercial banks and securities firms, and those between the Ministry of Finance and the Bank of Japan all originate from the "ad hoc, expediential policies" (ichiji no benpō). Therefore, what is effective (and even immediately useful) in national

23C. Johnson, 1982, pp. 251-2; emphasis added. Sahashi was MITI's vice minister at that time.

24Samuels, 1994, p. ix.
mobilization is abstract social norms and ideologies, not concrete government plans or private motivations because the latter will only repress flexible discretion and mobility. In this sense, plans and strategies, both public and private, can only be the script of deeper social norms and commitments such as technological mastery and the stable financial environment for industrial promotion. So long as such commitments are kept and realized, it would not matter whether the script is perfect or poor, or whether it is etched on the national consciousness as the "vision" or gets cancelled overnight.

Business decisions are also spontaneous and contingent. Of particular importance are the decisions as to market entry and exit; many of important ones prove to be motivated and made by personal commitment of the known individuals or recommendations of extra-firm actors such as government agency and academics. For instance, business decisions regarding market entry or initiation of aerospace research and development have been made casually and decentrally in many cases.

In this flexible and expedient political-economy milieu, relations between rival corporations are conveniently cooperative and stable. Close relationships are found not only between private enterprises but also between the government and business. Government agencies and business corporations are no doubt mutually dependent, reciprocal, and inseparable in many businesses. In this state of affairs, markets also become stable and predictable. Some point to the ideology of "co-survival"
shared by corporate decision makers. Competition is not like an auction bidding; it should be an arrangement in which all original bidders are able to "eat rice together." As Samuels wrote, "'Winner take all' remains an alien concept in Japan; this theory does not, for instance, serve the technology and security ideology."

The relationships formed based on non-economic considerations are bound to be long-standing. When the relationships are maintained on the long-standing basis and the roles of key individuals are critical, one is required to identify who the partner is. In other words, known faces or names are in many cases more important than market prices and policy visions as determinants of behaviour. Also important are the passion, foresight, personal sense of responsibility, and human bonds of key individuals who happen to be in the position to make major decisions. The importance of known individuals' commitment is no exceptional in industrial finance. The long-standing relationships with the need to identify partners logically lead to the importance of vested rights in determining social relations. Once a firm is in a game called managed competition, it is almost automatically awarded the vested right to participate in the ensuing games.

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Samuels, 1994, p. 188.
IV. HISTORICAL CONTINUITY AND THE SOCIOLOGY OF KNOWLEDGE

In the introductory chapter, I stated that the limit of our understanding of the corporate economy of Japan stems largely from the dominance of a law-like economic assumption that the large limited-liability corporation is a coherent decision maker and implementor that pursues interest maximization on behalf of its owners. I then stated that the goal of this study is to put the central actor of the corporate economy, the modern corporation, in a broader historical perspective and bring light to its socio-political nature. I also suggested my argument that opportunity sharing among rival corporations is mature and prevalent in Japan because of two conditions: managerial sovereignty and norm conformity. These two conditions, as I have discussed, were formed and ripened in the course of the demise of economic liberalism, which had once blossomed at the turn of the century. The conditions were particularly consolidated while Japan was on the road toward national mobilization and military expansionism. It was no accident, in hindsight, that the key prototypes of opportunity sharing were hammered out in the course of war mobilization.

The prototypical opportunity sharing formula for heavy/machinery manufacturing firms, for instance, was the so-called "Showa 7 Competitive Prototype Making Method" (Shōwa Nana
shiki Kyōsō Shisaku Hōhō) established in 1932 (that is, the seventh reign of the Shōwa Emperor). The working relationships among rival firms under the aegis of the Imperial Navy, including the Showa 7 Method, was indeed the model for the creation of NASDA and its transactional relationships with today's aerospace firms. In industrial finance, it was the year 1936 when the Sino-Japanese War broke out that the cooperative financing method was fully in form and place. As discussed in Chapter, the institution of cooperative financing became operative fully on the basis of the national catch phrase of building the "defense state" (kokubō kokka). Since these origins, then, opportunity sharing has been in operation as the central mechanism of ordering market relationships in Japan.

Of course, the impact of war mobilization on the industrial structures is not peculiar to Japan. In the United States, the military demands for civil war mobilization, the granting of special charters to corporations in order to raise private capital for infrastructure development, and state actions, particularly with the tariff policy, facilitated the emergence and expansion of large corporations. Mobilization for two World Wars prompted the concentration of economic power into a relatively small number of firms such as General Motors, Alcoa, and U.S. Steel. After World War II, the federal government sold

26 Interview, former Head, Space Development Section, Science and Technology Agency, Tokyo, 12 July 1994.

27 See, for example, Lindberg and Campbell, 1991, p. 364. For a full account, see Galambos and Pratt, 1988.
its military production facilities to war contractors at low prices. The rise of large US businesses was thus prompted by charters, the enactment of general corporations, the laws of incorporation. In short, the laws of incorporation "substantially reduced the volume and importance of resource allocation accomplished wholly by market bargaining, and increased allocations made through the discipline of private organizations." But in terms of the formation of the industrial society after the war, the directions of development in the United State and Japan were opposite. While the United States built the model of a free market economy showing a remarkable degree of historical discontinuity, Japan has thrived on limiting the core tenets of the free market economy, an opposite from the American orientation. The antitrust law enforcement is the most powerful evidence supporting this observation. While the antitrust law remains one of the most powerful economic laws governing the land of the United States, the Japanese "fair trade law" has been flexibly implemented with convenient relaxation at times whenever there are such needs for the sake of national industrial development.

The continuing spirit of economic mobilization, if not the actual state of mobilization itself, in Japan implies that historical continuity is a key element for the understanding of

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28Lindberg and Campbell, 1991, pp. 364-5. This is very similar to what happened in the early Meiji Period in Japan.

the institutions and practices of contemporary Japan. This view of historical continuity stands in stark contrast with a widespread view that post-war Japan is a new Japan. There is a strong tendency, particularly among Japanese economists, towards a belief that the post-war Japan is radically different from the pre-war Japan. Japan's achievement of the status as the second largest capitalist economy of the world provides a robust basis for believing in historical discontinuity. Ken-ichi Imai, a leading Japanese economist, offers an exemplary view:

"it should be emphasized here that an implicit long-term contract or long-term competition in the above sense becomes possible under the condition of rapid industrial growth... the prototype of the Japanese industrial organization was formulated under the special condition of a mixture of Japanese cultural tradition and rapid economic growth."\(^{10}\)

Kosai Yutaka, for another instance, singles out the two decades of 1950s and 1960s as a special period in the Japanese history which contributed to the making of a new Japan.\(^{11}\)

Recently, however, Noguchi Yukio suggested a more interesting observation on the continuity of economic mobilization based on his personal experiences:\(^{12}\)

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\(^{10}\)Imai, 1992, pp. 217-8; emphasis added.

\(^{11}\)According to him, Japan has achieved historically unprecedented "high-growth" owing a set of unique conditions or developments such as: (1) catching up technological innovations; (2) reliance on the market mechanism; (3) the special systems, customs, and behavioral style of Japanese society; (4) a process of reconciling external dependence on raw materials and a high level of domestic consumption with foreign exports and technologies; and (5) benefits from world peace, free trade and technology transfer. See, Kosai, 1986.

\(^{12}\)A former Ministry of Finance official, he is currently an economics professor at Hitotsubashi University.
Major components of the current Japanese economy were created during the war period. This statement means two-fold. First, many "Japanese" or "peculiar" systems and institutions were created during the war period. Such key institutions as the "Japanese firm" (nihon kata kigyō), the financial system based on the dominance of indirect financing, the tax system oriented to direct taxes, and centralized government administration were all artificially created at the request of war preparation. Second, they continue today. This fact goes squarely against the view that the post-war history is a new creature. Sitting in the Ministry of Finance which was a center of war preparation, I can testify to this for myself. The Ministry of Finance continues all major pre-war practices. When I had joined MOF, the administrative vice minister was an intake of 1935 and the head of the secretary section was an intake of 1943. For MOF of this kind, such worldly things as the war termination (shūsen) looked as if they had been happening in a different world. \(^{33}\)

This statement provides a view squarely opposite to the stubborn view of a new Japan created in the post-war period. As Noguchi noted, important socio-economic institutions were created during the tumultuous "inter-war" period. This view is supported by recent historical studies provided by a new school of economic historians such as Nakamura, Imuta, Okazaki, and Hashimoto, Takeda, and Miyajima, to name only several, as introduced in Chapter 4.

Opportunity sharing between rival corporations, the dominance of indirect financing (commercial banks) over direct financing (securities firms), the contracting practices of dangō (conference) and zuì keiyaku (voluntary or arbitrary bidder selection), the decisive role of internally-promoted presidents and directors (particularly the managing directors' meetings) are only several examples of Japan's unique form of capitalism.

\(^{33}\)Noguchi, 1995, p. iii.
introduced in this dissertation. And these institutions still continue to work. Historical continuity is seen not only in informal institutions but also in legislation for another instance. The Temporary Fund Regulation Law, a key law that provided the ground to financial syndicates, was created and implemented in both pre-war and post-war periods as discussed in Chapter 5.

It is important to understand here that historical continuity points not to historical determinism but to the contingent nature of political and economic phenomena. One implication of my argument is that the formula of opportunity sharing was materialized in contingent, rather than planned, ways. Nevertheless, historical institutions, even though they were created as contingencies, have some degree of autonomy so they can structure goals and rules of behaviour of political and economic actors.\textsuperscript{34}

The notion of historical continuity also differs from historical evolutionaryism. Historical accounts of contemporary Japanese political economy usually start their discussion from the collapse of the Shogunate and the ensuing Meiji Restoration. One persistent assumption of this chronologism is that current institutions and practices are the results of continuous historical developments and their accumulation. Of course I do not intend to reject this universal truism entirely. What is at issue is that universal truism obscures our understanding about

\textsuperscript{34}For an excellent account in this line, see Hall, 1986.
specific phenomena in question. The challenge this study offers to this evolutionary view is that the currently operating logic and norm of inter-firm relationships was determined through a set of historical accidents and contingent events, not in a gradual and cumulative fashion. The rise of the class of employed ‘sovereign managers’ and the fall of their principals is a good illustration of the contingent nature of the Japanese industrial society.

Another theoretical implication I intend to suggest in this study is that the current Japanese practices and institutions are mostly outcomes of historical accidents and contingencies rather than of collective rational choice. In this study, I analyzed corporate behaviour and decision in non-economic terms. Inter-firm relations, as a case study of firm behaviour, were interpreted in term of supra-market determinants embodied in norms, ideologies, and precedents. Judging from what I have found in this study, the notion of "choice" seems misleading when it comes to the market order and relations in Japan.\textsuperscript{35} From an historical-contingency perspective, I am particularly sceptical about the notion of a unified, coherent and purposeful actor

\textsuperscript{35}Of course rational-choice theorists themselves acknowledge that the rational choice reasoning faces strong opposition from other social science traditions, particularly when it is applied to non-Anglo-American settings. As Daniel Little wrote, "Substantivists have maintained that the concept of private self-interest is overly narrow, neglecting the powerful influence of norms and values in social action... And interpretive social science goes a step further and holds that the means-end rationality itself is culturally specific." But he argues that "none fundamentally discredits the rational-choice approach" in the end (Little, 1991, p. 36).
which is used to describe the corporation in particular.

A growing number of scholars tend to explain institutions and practices of Japan in terms of rational choice. For instance, Ramseyer and Rosenbluth wrote:

It is our purpose to demonstrate that standard choice-theoretic principles explain the dominant patterns of Japanese political life. The principles are not those intended to explain Japan. Indeed, they were not invented to explain any particular society. But that is our point.36

Their point is that standard choice-theoretic principles are universal and hence can be applied to any context. In a similar vein, Little argues:

it is legitimate to apply the concept of individual rationality cross-culturally... Human behaviour is the result of several different forms of motive -- self-interest and altruism, and several different types of decision-making process - maximizing and side-constraint testing... [but] it would seem reasonable to assume that each decision-maker places a high priority on personal and familial welfare.37

But this line of argument is rejected in this study on two accounts. First of all, it is my point that the standard choice-theoretic principles do not explain the dominant patterns of Japanese political (and even economic) life. Second, the choice-theoretic principles are not standard and universal. The choice-theoretic principles are peculiar to the United States, which happens to dominate social science globally at the moment. As C. Johnson and Keehn wrote:

The root assumption of rational choice theory has always been American economic individualism, which in practical


37Little, 1992, pp. 42 and 45.
terms translates into the belief that all human beings would behave like little Americans if only someone or something were not preventing them from doing so.\textsuperscript{38}

To revisit the analogy presented by Ramseyer and Rosenbluth, when the coolies pulling barges through the Yangtze River gorges got whipped by their supervisors, the whipping took place probably because the coolies lacked power and resources to evade such plight; it would not be because "acting collectively as principals, the coolies hired supervisors with whips to prevent each other from free riding" as Ramseyer and Rosenbluth described.\textsuperscript{39} No complex theory simply can turn the coolies (the underdogs) into the "principals" (the choice makers).

The choice-theoretical reasoning even loses its explanatory power in its familiar terrain, the market place. If I translate my argument into Albert Hirschman's terms, the principals of corporate Japan -- individual property owners -- have hardly entered the world of choosing between exit, voice, or loyalty, let alone choosing among them. Social arrangements and institutions are formed as outcomes of past historical contingencies rather than of purposeful choices of social actors. The notion of choice is not negated unconditionally in this study; choices, be they rational or irrational, are made within institutional and historical constraints.\textsuperscript{40}

\textsuperscript{38}C. Johnson and Keehn, 1994, p. 20.

\textsuperscript{39}Ramseyer and Rosenbluth, 1993.

\textsuperscript{40}This point is adopted from Thelen and Steinmo (1992, p. 12). I share the question on the validity of the rationality assumption raised by Thelen and Steinmo. As they wrote, "institutions play a
We are also bound to re-consider the meaning of economic 'rationality'. Some behaviours can be rational and others, irrational or indeterminate. And there is no single measure of universally agreeable rationality. The human being is an intelligent animal. He is rational and therefore knows how to maximize his interest. The associations the human beings create -- the German word _gesellschafter_ sounds appropriate here -- for the purpose of enlarging their interests would be no doubt rational. The modern corporation is the very embodiment of human motivations for the maximizing of economic gains. Cooperation among rational actors -- be they individuals or organizations -- may be understood in the context of rationality. Differences in the behavioral patterns of individuals or their associations such as corporations, therefore, would be matters of degree, not kind.

There must be some intervening conditions (or variables) that link the inherent human propensity for rational calculation with specific behaviours or institutions. What conditions facilitate the behavioral patterns or arrangements that cannot be readily explained by economic theory? Socio-cultural theory provides useful lessons at this juncture. As for inter-firm cooperation, for instance, while economists are concerned with allocational efficiency as the rationale of cooperation, sociologists suggest other forms of efficiency such as organizational efficiency. For Ronald Dore, "relational

much greater role in shaping politics, and political history more generally, than that suggested by a narrow rational choice model" (Ibid., p. 7).
contracting" seen in Japan is a way of trading off the short-term loss involved in sacrificing a price advantage, against the insurance that one day you can 'call off' the same type of help from your trading partner if you are in trouble yourself."

The notion of opportunity sharing among competitors may sound non-economic but is not necessarily irrational. It is certainly different from the state of 'market rationality' in which market relationships are characterized as auction-like, arm's-length, winner-takes-all competition guided by price signals. It is also different from the state of "plan rationality" in which the market behaviour is rational as it conforms to the collective purpose of the society which is invariably charted by the autonomous and prescient state. In the world characterized in terms of agency capitalism, a market behaviour is rational when it abides by the norms and rules that exist in the market as historical institutions to be abided by relevant market actors. These rules and norms may or may not coincide with market rationality or plan rationality, but that is not any concern for the rationality as characterized in the context of agency capitalism. In making decisions and taking courses of action, in both bank lending and industrial R&D,

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"Dore, 1983, p. 470. In this sense, Dore's observation is not very distant from Nakatani's characterization of business grouping as the act of forming of informal insurance. To Ronald Dore, valuing trust and cooperation is no less efficient. It simply is a different mode of rationality.

"For the notion of market rationality, see C. Johnson, 1982, Chapter 1.
rational choices of individuals and organizations prove sometimes non-existent and sometimes conditional. Or the assumption is too abstract and general because a business executive making a major decision conforming to a well-established traditional rule rather than to a more concrete principle of profit (and dividend) maximization of the company can still have some degree of rationality of his decision.

The rapid rise of Japan from the ashes of war destruction onto the position of the second largest capitalist economy of the world has drawn significant scholarly attention. A central interest in the Jpanology seems to have taken a new turn, from the preoccupation with the finding of secrets of the "economic miracle" to a more philosophical inquiry into the nature of the Japanese capitalism as a whole. Inside Japan, increasing efforts are being made to overcome intellectual dependence on Western (particularly American) social science and instead redefine the Japanese mode of capitalism as a different (but not underdeveloped or inferior) mode from the Anglo-American one. This unprecedented intellectual movement is closely related with the Japanese intellectual establishment's efforts to cope with American criticisms of the Japanese institutions and practices as unfair and closed ones. 43 Outside of Japan, there are growing

43 Key figures leading this debate is Sakakibara Eisuke (a senior official at the Ministry of Finance), Itami Hiroyuki (a management professor at the Hitotsubashi University), and Iwai Kazuhiro (an economics professor at the University of Tokyo). Interestingly enough, the leading defendants of the Japanese

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intellectual attempts to place capitalism in a comparative perspective. Michel Albert's recent book, *Capitalism Against Capitalism*, is a symbolic work, no matter one agrees with its thesis or not." In discussing commonalities and differences between capitalism, most studies are concerned with formal institutional arrangements at the national or industry level. Undertakings to understand the origin of the Japanese capitalism have been scarcely made. This study has been carried out in search of the logic of the contemporary Japanese capitalism and with a small ambition to suggest a corrective or warning for the myopic preoccupation with the glossy and trendy issues in front of us today.

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capitalism are all American Ph.D.s (Sakakibara, a Harvard Ph.D.; Itami, a Carnegie-Mellon Ph.D.; and Iwai, an MIT Ph.D.). While these scholars tend to justify the Japanese mode of capitalism as a recommendable one, another group of scholars such as Okumura Hiroshi and Nishiyama Tadanori view it critically as a distorted one.

"Albert, 1993."
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