Evolution of "Partnership Rationality" in Japan: The Logic of Collaboration between Rival Firms

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Introduction

The Japanese corporation is a chimera. Diverse opinions on the Japanese corporation arise, depending entirely on the perspective from which it is viewed. Discordant opinions about the nature of the Japanese corporation are largely determined by assessments of whether Japanese markets are oriented toward competition or collaboration. Some assert that competition in the Japanese marketplace is very keen. At the same time, others believe that competition in the Japanese marketplace is inherently limited. The great puzzle is that views citing both collaboration and competition can be factually substantiated.

The purpose of this essay is to reevaluate the validity of currently dominant views of competition and cooperation in Japan and suggest an alternative perspective. Based on historical observation, the central premise of this paper is that compatibility between competition and cooperation has been a core feature of the market order in Japan. In Japan the notion of "market" principles have always been characterized by promises of both success and failure. Establishing economic democracy in the form of a popular "corporate" economy has been one of the nation's standing commitments. Ironically, failure to achieve this goal has proven to be a lucrative source of economic success. This failure has been most notably reflected in the nationally cherished notion of "orderly markets." An orderly market in the Japanese mind is one in which neither competition nor cooperation solely decides the relationships between market actors. In short, competition and collaboration are at work simultaneously in the Japanese economy.

This essay draws attention to the need for a new concept capable of interpreting the relationships that exist between major market actors, including government agencies. I propose a new concept and refer to it as "partnership rationality." The defining characteristic of partnership rationality is compatibility between, and management of, competition and collaboration involving direct competitors who seek the same, scarce resource. The

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paradigm of managed competition is essential, consistent, and widespread in the history of Japanese industrial development. It has existed since a modern capitalist system was formed in Japan. In order to support my argument, I shall draw empirical evidence from two major areas of corporate behavior: industrial finance, and research and development in the space industry.

Debate on the nature of Japanese political economy in general and the market order in particular has focused on two factors, government plans and market prices. Surrounding these two notions, two groups of researchers have formed, each with elaborate models and explanations.

Free Competition Is Inherently Limited

There are several different facets of the view that free market competition is inherently limited in Japan rather than merely temporarily weakened. Political scientists have theorized about national purposes represented and implemented by "strong, motivated, and prescient" government and business organizations responsive to market forces [13, 27, 1]. The Japanese government has been particularly concerned with preventing the malfunctions associated with "excessive competition." Excessive competition, if unchecked, could cause serious damage to the economy [24, p. 38]. This concern has provided the rationale for government intervention in the economy. State intervention, even though "market conforming" rather than market displacing, becomes a fundamental obstacle to unfettered market competition [13, 28]. The main appeal of this approach is the notion of collective commitment such as national interest [16]. The dominance of public cause over personal motivation is most succinctly conceptualized by Chalmers Johnson in terms of "plan rationality" [13].

The argument that competition is limited due to government intervention has been explicitly and implicitly supported and supplemented by historical and cultural studies. Under unfavorable conditions such as the underdevelopment of industry and shortage of skilled labor, technology, and capital, development theorists argue that development requires a set of institutions in all realms of economic activity [6]. Other than government intervention, one of the most important institutional arrangements in Japan is the concentration of resources into a limited number of giant firms. The result is, of course, reduction of competition [26]. Another major source of orientation to cooperation is the cultural norms which value collaboration over competition. Demonstrating the will to cooperate is the most essential and highly valued quality in virtually all interaction [4, 20, 32] Theories of government interventionism, economic concentration for late industrialization and cultural uniqueness all share the notion of commitment to a common cause. Collective motivation, in whatever form, precludes or at least obstructs the potential for purely selfish or rational calculations.

Neither statist, historical, nor cultural theories are capable of fully explaining limited competition in Japan. While traditionalist theories such as these emphasize the sociological forces mitigating toward compromise over contention, there is another side to this issue. Japanese pluralist theorists note that conflict takes place among diverse social interests. From this perspective

competition seems to be the normal state of affairs [18, 11, 17, 29]. The Japanese pluralist argument, however, does not explain free-market competition since it regards limitations and barriers as extra-market and thus incurable within the market. Japanese pluralists do recognize that barriers are mostly imposed by the system of government and political negotiations. In short, competition is not free but is subject to formidable obstacles. This observation brings us back to the dominance of collective purpose over private motivation. In Japan, a contemporary illustration of the articulation of common purpose is the prospectuses issued by government agencies. Known as "visions," these documents frequently originate in the Ministry of International Trade and Industry (MITI). A government vision is designed to provide both direction and information, in the interest of plan rationality.

We have identified four schools of thought on why competition is inherently limited in Japan. However, each exhibits a problem which limits its explanatory power. The statist theory is not correctly specified in terms of the level of analysis. Government vision as policy direction can affect the hierarchy between industries, technologies, policy objectives in allocating scarce resources. Significantly, this does not apply to firms that operate within the same industry. The weakness of the historical and cultural theory lies in the existence of the "null" models found in other east Asian nations. Japan's neighbors such as Korea, Taiwan, and Singapore are all industrial latecomers with similar cultural backgrounds. They do not exhibit the coexistence of competition and collaboration found in Japan. The most serious problem with Japanese pluralist theory is that the condition currently inhibiting free competition is intractable. In other words, there is no prospect of modification capable of moving Japan onto a path toward open competition. State actions perpetuate a version of competition in Japan which is closer to partial paralysis than full operation.

Free Competition Will Prevail

There are Japanese and Western researchers who present a picture of the Japanese economy fundamentally different from the one we have depicted. This school of researchers believe that Japanese markets are moving toward free competition. Accordingly, the constraints on free competition are seen as justified by the pursuit of rapid economic growth, and are therefore temporary and situational. Both Westerners and Japanese who emphasize the existence of competition in Japan acknowledge that it has been limited for various reasons. In this schema the barriers to competition are derived from the market, and will therefore be eventually eliminated by the functioning of market mechanisms.

One group of scholars explains collaboration between rival firms in terms of cost. Some attribute the possibility of collaborative actions, which often take the form of networks or alliances, to the effect of decreasing "transaction costs." In a more Japanese context, the phenomenon is often explained as risk sharing by the formation of informal insurance agreements between firms [22]. Related to this cost explanation are theories of market structure. One of the major structural characteristics of the Japanese political

economy is a high concentration of economic power within the hands of a relatively small number of corporate actors, the keiretsu [5]. A third line of reasoning, somewhat related to the second, attributes the motivation for collaboration to "underdevelopment" of Japanese markets [7]. Firms may take collective action when the market mechanism is underdeveloped, or distorted. Regardless of the difference in rendition, however, these theories all depend on a common assumption: firms act according to 'market rationality' of which the fundamental determinant is price.

Price is no doubt the dominant influence in determining the relationship between Japanese firms. Nevertheless, price-led, utility-maximizing, rational behavior does not prevail in the contemporary Japanese economy. Profit maximization is obviously the *raison d'etre* for all Japanese corporations. But there are instances of decision-making when profit maximization must yield to other goals. The notion of reducing cost and risk is as old as civilization and is certainly not endemic to Japan. Neither transaction cost theory nor "underdevelopment" theory are helpful in the Japanese context. Attempts to utilize these theories with regard to Japan rely on the specious claim that market rationality is temporarily inactive or weakened while the Japanese economy becomes fully developed. The mismatch of theories with actual practice is illustrated by the fact that underdevelopment theory is still utilized even though the Japanese economy is the second largest in the world.

Partnership Rationality: The Logic of Collaboration Between Rivals

This section will elaborate on "partnership rationality" as an alternative theoretical framework for analyzing the market order of Japan. Partnership rationality consists of two concepts: (1) the weakeaning of market mechanisms and (2) the contingent nature of government vision. These two concepts are also testimonies of the failure of market rationality and plan rationality.

Mainstream economic theory is based on two kinds of separation: the separation between actors, and the separation between rationality and emotion [9, 3]. In this regard, the behavior of the Japanese business corporation is neither regular as described by neoclassical economists, nor irregular as assumed by statists or socio-cultural theorists. Japanese firms are "embedded" [8] in the economic and business environment as illustrated by the following principles.

The Ideology of Co-Survival

A defining characteristic of Japanese market order is the long-standing relationships between major market actors. For Japanese corporations, maintaining a stable presence and prestige in the market is more important than securing pecuniary profit, for a quarter or a year. The implication of this for government and the national economy is that the markets are stable and predictable. An important source of this market stability and predictability is the Japanese philosophy of coexistence. Competition for Japanese is not like a winner-take-all auction. Rather it is a process in which all original bidders partake of the goods being offered. In Japanese parlance they "eat rice

together," even though in disparate proportions [30]. In the space industry, the relationship between competition and cooperation has been very stable since the dawn of the industry in the early 1950s. Particularly, relations between prime contractors and subcontractors have remained virtually unchanged despite many ups and downs in the marketplace. Consigned by the National Space Development Agency (NASDA) as the sole client, Mitsubishi Heavy Industry Ind. (MHI) has managed the industry as "systems integrator." In the consecutive projects of N-I, N-II, H-I, and H-II rockets, the work was divided between three major participants, MHI, Ishikawajima-Harima Heavy Ind. (IHI), and Nissan Motor, and remained virtually unchanged. According to a senior MHI manager, MHI could have taken over a portion of the work of IHI because of superior technological capability and lower pricing. Apparently, the assignation of work to IHI was not made on a purely economic basis.

The case of the satellite industry is more interesting. The application satellite industry is currently divided between three major firms: Mitsubishi Electric (MELCO) for communications satellites (CS); NEC for geometeorological satellites (GMS); and Toshiba for broadcasting satellites (BS). In reviewing the literature and through interviews, it was found that both MELCO and NEC were technologically capable of assembling two or more of the products. However, the government wanted the contracts to be shared in the industry in order to promote technological development and indigenization. The three firms involved had no objection to the plan proposed by the government. An analogous approach was used in decisions about the financing of the projects. A good example is the relationship between Dai-chi Kangyo Bank (DKB), Sanwa Bank and Fuji Bank in providing loans to Hitachi, Ltd. In 1958, for example, DKB (Dai-ichi Bank at that time), Sanwa and Fuji accounted for 19%, 20% and 13% respectively of the total annual bank loan received by Hitachi. These three banks have not only remained in the cooperative loan syndicate for Hitachi over a long period but have kept their shares stable. With the merger of Dai-ichi and Kangyo Banks into Dai-ichi Kangyo Bank in 1970, the DKB's share became larger than those of Sanwa and Fuji from 1971 (19%, 13%, 13% respectively). Even though these three banks do not confer with each other regarding loan shares, the illustration bears eloquent witness to the idea that the interest rate as money price is not the key variable. Long-standing relationships are found not only between competitors but also between collaborators. For instance, Fuji Precision Co. (later absorbed by Nissan Motor) entered the solid-propellant engine business in 1953 with the recommendation and assistance of Professor Hideo Itokawa of the University of Tokyo. The firm needed an explosives maker and chose Nippon Oil & Fats Co. (Nippon Yushi); this relationship still continues. NEC and Kawasaki Heavy have been in a collaborative relationship in the space industry; a similar partnership exists between Toshiba and IHI.

Vested Rights

Closely related to the tradition of long-standing stable relationships are the conventions associated with vested rights. Once a firm is in the game, it is almost automatically given a vested right to continue to participate. It is

virtually impossible to cite any Japanese company which entered the space business and went bankrupt or was ousted from the industry. The importance of the vested right seems to be most succinctly illustrated by the dominance of MELCO, NEC and Toshiba in the satellite industry. These three firms may have some technical superiority in the satellite making over other powerful electronics firms such as Hitachi, Fujitsu, Oki and Matsushita. But most importantly, MELCO, NEC and Toshiba were the firms which had initially and exclusively participated in the Defense Agency (JDA) work in 1953. In July 1953, JDA initiated research on the pilotless airplane and placed an order, which was later expanded to missile research. Logically, seniority seems to be an important variable in the awarding of contracts. Hitachi, Fujitsu and Oki are relative newcomers, as they entered the market in 1966 and 1967.

Non-Price and Non-Profit Decisions

The notion of "co-survival" of private enterprises reflects, among other things, the weakening of price and profit maximization as determinants of firm behavior. Prices are not the only variable influencing decisions. In the Japanese business world, profit maximization is not a categorical goal. Many Japanese firms invest in projects with advance knowledge that they will remain in the red for an undetermined period [31]. Therefore, standard business considerations such as return on investment or dividend maximization are either missing or of secondary importance [10]. The episode of conflict between MELCO and TRW in pricing the broadcasting satellite is an instructive example. In the giant broadcasting satellite business, competition was between MELCO and Toshiba, which had technological ties with TRW and GE respectively. MELCO's primary goal in the competition was to get the project itself whatever the profit may be. As such MELCO was determined to make a low price quote, even though this was not acceptable to its partner TRW. TRW queried MELCO as to why it was submitting at all if it was expecting a loss. As MELCO and TRW were caught in conflict over pricing, the project eventually went to Toshiba as a kind of the third party solution. This is how the whole applications satellite business was divided between three major firms including NEC. It is rather refreshing to hear the managers of Dai-ichi Kangyo, Sanwa and Fuji Banks in charge of the loans for Hitachi, Ltd. say that the interest rates as the price of money are not primary factors in determining the frame and share of loans for Hitachi. As a young Japanese manager put it, the price in Japan "may function as pressure."

Personal Roles

Related to the concepts of stable relationships, vested rights, and non-economic decisions is the importance of personal relations. Long-standing, stable and vested relationships inevitably require one to identify who the transaction partner is. In other words, a face or a name is in many cases more important than price and policy vision as the determinant of behavior. This does not necessarily mean that the market transaction takes place amid a turbid

milieu in Japan. Rather it indicates the impact of human factors in business decisions.

It is worth noting that the market entry decisions of Japanese space firms (now all global leaders) were made in non-business-like ways. For instance, a major factor for IHI's entry into the space industry was the invitation of a government official. In 1964, the Head of Coordination Bureau of the Science and Technology Agency visited IHI and advised the firm to do some work in the industry. In response to this invitation, IHI opted to enter the space industry. In another instance, when Professors Itokawa and Takagi of the University of Tokyo, two pioneers of the Japanese space industry, advised NEC to enter the business of rocket electronic equipments 1955, the top manager responded positively. He indicated that NEC would enter the new market "from a national perspective and therefore without regard for profit or loss." Now NEC performs approximately eighty percent of the work in the area of Japanese science application satellites.

Also important were the determination, foresight, personal sense of responsibility, and human bonds of key individuals who happened to be in the position to make major decisions. Business decisions regarding market entry or R & D initiation were made casually in many cases. For example, the entry of Fuji Precision (former Nakajima Aircraft Co. and later absorbed by Nissan Motor) into the solid rocket propellant industry in 1953 was recommended by Professor Itokawa. Professor Itokawa was a key engineer of Nakajima Aircraft himself before World War II. In early 1959, Professor Itokawa approached the Nagoya factory of MHI with a request for construction of the motor and thrust chamber for the Kappa Rocket under development at that time. According to a MHI history book, this was the beginning of MHI's space-related business. The MHI corporation subsequently became "general representative" of the industry.

Work Sharing and Allocation

Two additional aspects of partnership rationality are the allocation of business opportunities in a non-competitive manner, and the fact that these opportunities are either shared or alternately awarded to rival firms. The sharing of work between rivals is as old as Japanese industrial history.

In the inter-war period the Japanese aircraft industry was developed in a very favorable environment. The industry received a numerous and stable supply of production requests, and was under government and military protection. Technological development was pursued competitively by "appointed" contractors. In the case of the aircraft industry these contractors were Mitsubishi Aircraft and Nakajima Aircraft. But Mitsubishi and Nakajima not only shared work with each other and other competitors, they also traded assigned projects. Competitive bidding for prototype aircraft was not open to multiple firms. Access to the bidding was usually given to two major firms in the technology area in question [25, p. 27]. In contracts for naval fighters and attackers, Mitsubishi "was ordered to become a bidder along with Nakajima." At the same time, however, there was not a single firm ousted from the aircraft industry. Instead, "the weak ones, replying to the military's

request, took the responsibility for other minor projects of the industry." In the postwar period, a major project implemented on the work-sharing method was the development of YS-11 civilian aircraft, the first Japan-made aircraft to be exported. Development of YS-11 aircraft was undertaken by a syndicate called the Japan Aircraft Manufacturing Co. (JAMC) which consisted of multiple rival firms and non-private institutions. Research was organized in a coordinated division of labor between all eighteen firms.

The work-sharing approach continued to be utilized in the space industry. In announcing MELCO as prime contractor for the ISS project, Minister of Posts and Telecommunications Hashimoto called in the presidents of the six competing producers and asked for their "cooperation as sub-contractors." In 1967 and 1968, NEC and MELCO were competing for NASDA's telemeter receiver, and the competition resulted in a stalemate. The eventual solution was hammered out between NEC and MELCO managers, without consultation from NASDA. The solution was to divide the work into the antenna unit and the receiver unit and for each firm to take one unit. NASDA then agreed to divide the allocated budget into halves for NEC and MELCO [23, 113]. In the bidding for the tracking and control equipment for the applications satellite in 1974, four firms participated (NEC, MELCO, Toshiba and Fujitsu). NEC was chosen as prime contractor with the remaining three becoming subcontractors. The NEC engineering managers in charge later recalled that the most difficult task was how to design and divide the entire work. In the initial technical meetings, "subcontractors acted like by-standers watching NEC's dance" and thus "the process became a three-sided deadlock." After rounds of consultation and NEC's recognition of the technological merits of subcontractors, the four firms came to carry on with designing and inspecting the factories of other participating firms [23, 230-11].

Delegated Management of Competition

When rival firms compete for scare resources and opportunities and cooperate at the same time, there must be mechanisms for conflict resolution. Competition is "managed" so that everyone can "eat rice together." The Japanese approach to mediation was developed over a long period of industrial development. The aerospace industry in particular was the one in which government agencies functioned as an owner in the delegation of the management of competition and cooperation to private firms. The tradition of *minkan itaku* (delegation or consignment to private enterprise) dates back to the prewar era. Of particular importance to this formula of delegated management was the advent of the so-called "Seven Experimental Prototypes." This was based on the consigning of prototype research and building to a few private competitors. It was so named because it began in the seventh year of the Showa reign, which was 1932. Competitive prototype research and production was driven by a special navy arsenal called "Kugisho" or Naval Air Technology Arsenal. The *Kugisho* was created in order to "coordinate closely and coherently research, designing, experimental production and test flights" [25, p. 20]. Another similarity to the current system of business and government partnership concerning R & D is found in the "study groups"

(*Kenkyukai* run by government agencies (the Navy and the Army at that time). During the prewar period, the Navy initiated joint research activity, and is considered to have been very effective in advancing civilian technologies [25, p. 43]. Typically, the joint navy-civilian *kenkyukai* for each technology area was held once a year at the venue appointed for the specific technology.

Turning to the postwar period, the rocket industry, in which the National Space Development Agency (NASDA) is the sole client, has been managed by Mitsubishi Heavy Industry (MHI) as "systems integrator." In the consecutive projects of N-I, N-II, H-I, and H-II rockets, the content and portion of work sharing between the major participants, MHI has served as systems integrator *cum* general representative. In the applications satellite industry, the managing firm is MELCO. The managing firm awards the contracts for the whole project and divides the share with other associate primers. MELCO indicates what parts and materials are to be used. Based on the managing firm's specifications, the associate primers use their own designs and plans. Under pressure from the United States in the Super 301 Clause negotiations, the three Japanese firms have recently adopted a 4:3:3 work sharing formula.

Contingent Government Policies: The Failure of Vision

The view that market order and behavior are determined by public purpose reflected in government policy or vision is based on a set of assumptions about the nature of the state: It is "prescient, coherent and strong." In the case of the Japanese space industry, these assumptions prove misleading.

The Prescient State

A key premise of statist theory is that the state comprehends the development of history better than other social actors. Initial research on the space industry may conjure up images of the Japanese government as equipped with firm commitment and faultless strategies. Upon closer observation, however, we find numerous instances of lack of foresight, inefficiency, and an ansence of contingency-planning. Many Japanese firms and government agencies have achieved grand purposes with poor plans and strategies. In this sense, the Japanese political economy has been "ideology rational" rather than "market rational" or "plan rational." The structure of Japanese industry was determined by neither government plans nor market prices. The opportunities presented to Mitsubishi firms, particularly MHI, that enabled them to become dominant in the space business arose from the fact that they were assigned to develop the surface-to-air missile (SAM). This initial decision and request was made by the Defense Agency in 1958. Technically, SAM needed a liquid-propellant system, the technology required for large-scale rockets. A similar pattern is found in the case of MELCO becoming the "representative" of the applications satellites. MELCO became the leader in the field of missile guidance technology with the help of Switzerland's Oerlikon in 1958. It is

clear that MELCO's rise as representative was a byproduct of the aggressive exploration of guidance technology [2].

The underlying uncertainty of Japanese policy is reflected in an incident which occurred in the space program. In 1970, the Japanese government decided to abort the Q-series rockets and to attempt to develop liquid-propelled N-series rockets instead. This 'paradigmatic' policy change to develop liquid-engine, in lieu of the solid engine, was based on aspiration rather than capability. In retrospect, the decision was a reckless one, at least technologically. The liquid-engine rocket requires sophisticated electronic guidance technology, and at that time Japan possessed none of the needed technology (*Asahi Shimbun*, July 7, 1970). The decision to develop the liquid-engine rocket reveals that Japan assumed that it would receive technological assistance from the United States. This also indicates that concurrently with the ambition and commitment to industrial and technological development, there was a lack of coherent strategy.

The Coherent State

Competition between the government agencies involved in the development of technology was another factor contributing to the lack of coherent state policy. Rivalry between government agencies regarding consignments for R & D existed as early as the prewar period. In the prewar period, there was a gap between the Army and the Navy in terms of military-business relations and import substitution in aircraft production. Following the war, there was ongoing tension between the two major agencies involved with space technology. These agencies were the University of Tokyo research team, backed by the Ministry of Education, and the NASDA researchers, backed by the Science and Technology Agency. There is a long history of friction, scandals, and maneuvering between these two camps, all of which testify to the failure of the Japanese state to achieve two key goals: (1) making the Japanese space program entirely indigenous; and (2) creating a unified "NASA of Japan."

The Strong State

Japanese government agencies have been always dependent on the money, knowledge, and expertise of private actors with their own goals. In the US space industry, for example, the direction of dependence goes from the private sector to government. The US government acts as "anchor tenant" for space firms. In the case of Japan, however, the direction of dependence goes from government to the private sector. While development risks are taken by the government in the US, they are sustained by private firms in Japan.

In the area of R & D, the most common evidence for government expediency and dependence is found in the permanent shortage of government appropriations for R & D in the space industry. The financial shortages in the government budget became a pretext for limiting the number of bidders wishing to become associate primers. Therefore, both government and private firms in the space industry have *a priori* expectations of nominal government

financial support and the loss in R & D for the firms. These built-in factors inevitably result in compensatory measures in others areas.

The Quasi-Corporate Economy: The Environment for Partnership Rationality

Why do Japanese industries and firms prosper while government plans and corporate strategies are either incomplete or inadequate? There are two possible responses, both of which highlight issues pivotal to Japan's political economy. One is the sense of crisis which pervades both public and private actors. The other is the unique position of the Japanese corporation: it has no owners to account to.

A leading Japanese economic historian finds the roots of modern Japanese economic institutions in the era of war-time control [21]. This conveys the legacy of the intense crisis mentality of war-time as a major driving force behind industrialization and technological development. The sense of crisis has continued to exert significant impact on the way in which the government defines its role and its relationship with private business.

Another factor which assists in explaining technological development in the space industry is that the starting point of the industry was not civilian but military. While the Japanese space industry claims to be civilian in purpose and content, its origin was military. The guided missile industry sparked research on flying bodies, the rocket engine and telemeter electronics, the three major component technologies of the space launch vehicle and satellite. Ideological rationality, flexibility of government strategy, and mobility of business firms driven by a crisis mentality are all part of a broader social context. In my opinion, the most crucial aspect of this context is economic structure in which firms have no real owners. It seems ironic that Japan has succeeded in fostering the most robust capitalist economy while a critical element of capitalism underdeveloped. By the twentieth century, advanced industrialized societies had formed 'corporate economies,' that is, a pool of anonymous individual investors who seek maximum returns on their investments. The conception of corporate economy based on organized stock markets has been very weak in Japan. Contemporary Japanese capitalism is dominated by the "juridical-person" corporations (*hojin kigyo*) in which individual shareholders are virtually "fossilized." Those who have real control over the corporations are salaried managers. The ease with which Japanese firms have been able to make decisions without worrying about fiduciary obligations to shareholders stems from this structure. The Japanese economy has been driven by "manager sovereignty," not consumer nor producer sovereignty. In this sense, contrary to the popular view of Japan, what is indeed mobile in the Japanese political economy is industrial corporations rather than the government.

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