

# GLOBAL COMPETITION AND THE JAPANESE MODEL OF CAPITALISM: A HISTORICAL AND STRUCTURAL ANALYSIS

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## **Introduction**

In the 1980s all the world marveled at the strength of the Japanese management system. But, as the result of profoundly altered circumstances at the end of the 1980s and in the 1990s, structural fragility of Japanese capitalism was completely exposed, and so the reputation of the Japanese economy in the world was precipitately reversed. Japanese firms got over the second oil crisis at the end of 1970s without difficulty, and it adapted itself promptly and flexibly to a rapid appreciation of the yen in the latter half of the 1980s. For a while Japanese firms' competitive power stood out brilliantly, the secret of which attracted much attention from all over the world. But today the dubious eyes of foreign countries are focused on Japanese capitalism, which subjects itself not only to the unfavourable reputation of its technologies being unreliable or its financial system being unstable, but also even to the harsh criticism that a Japanese-style system 'does not make human beings happy', though it once won an admiration such as 'Japan as number one'. As if corresponding to the reversal of reputation abroad, at home the Japanese wavered severely in their confidence in their own peculiar system of production and management. Many of proponents who formerly advocated in a high tone the efficiency and universal significance of the Japanese management system, now assume to be as silent as possible, or feel deepening uneasiness about the future shrouded in dark clouds, or feel growing devotedness to the Anglo-American system in stead of the Japanese model.

What is the reason why the Japanese model of capitalism that enjoyed the heyday about a decade ago is suffering from such a precipitate decline? What causes Japanese capitalism to fail to cope with great changes in the global economic situations well and to deteriorate its international competitiveness? And then, in what direction can it evolve? These questions about the faltering Japanese economic system are the ones that it is worth while asking for

their own sake, prior to discussions on which policies to adopt in order to reform institutions.

### **1. Where is the secret of strength?**

In contrast with the American economy in the 1980s when it fell into a debtor, accumulating twin deficits, or budget and trade deficits, the Japanese economy strengthened a position as a creditor with cumulative export surpluses brought in by its superior competitiveness in export markets. During the first half of the 1980s, the high interest rate policy of the United States to cut the root of an inflationary spiral indeed contributed to Japanese firms' export drive, through calling huge funds in to fill twin deficits and causing the dollar to appreciate. But, if the secret of strength had been in temporary swings of the overshooting exchange rate, the success story of Japanese firms would have ended immediately after a rapid depreciation of the dollar as a result of the concerted intervention under the Plaza accord, that is, a few years earlier than it actually ended. As it was, the predominant factor that reinforced the competitiveness of Japanese manufactured products on world markets was a microelectronic revolution that pervaded the industry rapidly. A wide adoption of advanced microelectronic technology in manufacturing, combined with the Japanese management system, made it possible to achieve a considerable rise in productivity and a flexible responsiveness of production to changes or diversity in demand, especially in the machinery industry.

Issues over the strength of the Japanese production system must, first of all, be discussed as problems closely related to a dramatic reversal of the debtor-creditor situation that happened between Japan and the United States during the historically specific period of the 1980s. Thus, to explore the secret of the strength, it is necessary to enter into the historical characteristics of the Japanese production system that supported the competitiveness during the 1980s. What has most frequently been pointed out in this respect so far is as follows. Firstly, Japanese firms' adoption of microelectronic technology was the most rapid in advanced industrial countries in terms of diffusion of industrial robots, numerical control machine tools and flexible manufacturing systems (FMS). Secondly, this mechatronization of industry, coupled with the Japanese style of production management based on adaptability of small groups composed of multi-skilled workers, enabled Japanese firms to supply various sophisticated products in compliance with a delivery date while quickly responding to capricious and segmented markets.

In my opinion, the reason Japanese firms got an advantage over European and American firms, has to be investigated from a threefold viewpoint. In the first place, the elements of the Japanese system, which had been built up during the postwar high-growth period, played a crucial role in promoting flexibility of production in the main export industry, or assembly-type industry, such as electrical appliances, electronic products and automobiles, during the 1980s. Second, Japanese firms made the most of the fruits of innovations in microelectronics as a technological foundation of flexibility. Third, in this period, in order to

get out of a sclerotic mass production system and adjust production to more capricious and diversified demand, most firms in advanced industrial countries had scarcely any choice but to impose on themselves the task of attaining enough flexibility as a source of competitiveness.

These three explanations are to be grasped as those giving the unified reason for the success of Japanese firms during the 1980s, but each of them is different in origin and dimension, and has the latent inherent logic to develop on its own, intertwining with the others. To investigate why the flexibility of the Japanese economic system could not sufficiently function as the adaptability of the system vis-a-vis the changes in the international economic environment in the 1990s, it is necessary to give careful reconsideration above all to the second and the third explanation, that is, peculiarities of changes in the technological foundation of production and in the macroeconomic relationship linking production to demand. The question to answer is whether in the altered circumstances of the 1990s the above explanations still hold good or not. But I do not enter into the problem until I examine one prevailing theory that explains the strength of the Japanese economic system.

## **2. In what sense is the Japanese corporate system efficient?**

Japanese firms' success seemed to suggest that the Japanese economic system or its core constituent, the Japanese corporate system, demonstrated its institutional or organizational efficiency. It was a series of studies by Masahiko Aoki that offered a powerful foundation for the explanation of this apparent efficiency from the methodological standpoint of comparative institutional analysis.<sup>1</sup> His theory of the Japanese economic system had broad influence both within and outside Japan upon the opinion that viewed it as an efficient system. The feature of Aoki's analysis is where he makes an attempt to examine relative efficiencies of different institutions or organizations, explicitly subject to the real condition that the rationality of individual economizing behaviour is bounded, though fundamentally accepting the neoclassical framework within which an economic system is estimated in terms of allocative efficiency.

According to his view, the Japanese economic system consists of the institutions complementary to one another, which are formed within the firm, among firms, between firms and banks or between firms and the government respectively. Those institutions are of a different type from the Anglo-American system based to a larger extent upon the efficiency of market adjustment, but have some rationality alike in the sense that they utilize uncertain and asymmetrical information efficiently. Even if each institution that constitutes the Japanese system is separately replaced with its counterpart that constitutes another system, it can not immediately lead to the transformation of the Japanese system into another system, and only detracts from the efficiency of the system as a whole for the time being. The institutions which Aoki argues that make up the Japanese system, are these: (1) the incentive scheme to develop contextual skills that facilitate knowledge sharing among workers in a production team, (2) the system of centralized personnel administration to check arbit-

rarness of team supervisors' relatively independent decisions and conflict between their decisions, (3) the subcontracting system through which diverse components are efficiently supplied in a 'just-in-time' way and through which subcontractors cooperate closely with prime contracting firms in product development or design, (4) the main bank system that plays the part of monitoring management and bearing the risks of affiliated companies, and (5) the bureaucracy intervening in the coordination of plural interests of economic agents by adopting ad hoc policies contingent upon the situation. Aoki's theory suggests that if complementarity among these institutions works together well, it enables the Japanese economic system to respond, to some extent flexibly, to changes in the economic environment.

While the conventional theory of the firm presupposes implicitly that the intrafirm centralized vertical coordination exemplified in the Anglo-American system is essential for administration, Aoki's comparative institutional analysis seeks to show that the Japanese firm is another efficient system built on the basis of knowledge sharing at the shop floor, and as it were, an 'Idealtypus' of the system founded upon decentralized horizontal coordination. The Japanese system grasped as an ideal type is an idealized model of the Japanese economic system in the high-growth period when it brought its institutional complementarity into full play but did not establish international competitiveness. Therefore, the model is not always appropriate as an analytical tool for explaining the paradoxically outstanding performance of the Japanese firm during the 1980s when its institutional complementarity began to collapse. In the 1980s the function of the main bank system tended towards declining and degenerating. The Japanese bureaucracy, also, could not fulfill properly its role of absorbing plural interests of various pressure groups, for the public finance became so inflexible as a result of a lavish spending in the 1970s that it could not serve sufficiently as a pecuniary means of coordination. Moreover, as will be discussed later, Japanese firms carried out actively the global relocation of production in the latter half of the 1980s, which caused some rifts among subcontracting relations. Thus a dramatic reversal of competitive advantage in the United States and Japanese manufacturing happened just as the institutional complementarity of the Japanese system was weakening and on the edge of collapse. This incompatibility between Aoki's model and its historical basis restricts the perspective of his analysis. But the crucial problem of Aoki's theory lies in a more fundamental methodological issue.

Mainstream economists have not attached much importance to the development of the analytical tool with which to elucidate the nature and function of non-market or quasi-market institution, such as the intrafirm organization that the law of market can not govern directly, and the inter-firm relations that can not be reduced to the pure exchange relations of commodity economy. As stated above, Aoki makes an attempt to prove the Japanese system's viability as a consistent system of a different type from the Anglo-American system that is characterized by specialized skill and functionally differentiated organization. This attempt demonstrates a new direction of economics, and so needs to be properly regarded. Those who are interested in designing a new institution to replace an existing capitalistic

institution can not be allowed to end up with only depicting a sheer vision. In addition, an analytical viewpoint is required of them in order that they can answer the questions of whether the incentives to induce economic agents to give desirable performance are implanted in new institutions, and of whether complementary relations necessary to keep the system as a whole consistent are established among institutions. Thus the way Aoki has proceeded indicates one of some frames we refer to for studies on what institutional scheme is compatible with specific non-market relations. For all these positive results, there are some problems common to new institutionalists in his understanding the history and institution of capitalism.

A corporate system evolves in a specific direction under the pressure of structural changes resulting from historical development of the capitalist world. Advanced capitalist countries involved in the world system, especially, come under pressure to synchronize with world historical development. Therefore, it is natural that institutions in the advanced countries should tend to have common structural features corresponding to the historical role of institutions, beyond the diversity that lies in the geographical location and the cultural tradition of each country. But the role of the institution does not consist in fulfilling conditions for efficient allocation of resources, though new institutionalists including Aoki himself consider it to be the essential factor for evolution of economic systems. Whether an institution fulfills conditions of allocative efficiency or not, in one case it functions as a stabilizing anchor for a system, or as accelerating leverage for change, and in another case, conversely as fetters to hinder progress.

To be sure, Aoki does not regard an institution as a mere competent resource allocator that takes the place of a market. He gives some weight to the possibility that one institution inferior to another in allocative efficiency is adopted by accident in history. In his view, the evolution of the institution is path dependent in the sense that historical initial conditions of evolution prevent one institution from evolving into another optimal one. Even if an existing institution is not optimal, it is 'self-enforcing' because of its strategic complementarity founded on the behavioural ground that the payoffs players gain by following the majority are more lucrative to them than those they gain by not following. For example, in Japan a knowledge-sharing type of system was formed not only in the assembly-type industry, but also in some other industries, like chemical and information industries, though a functionally differentiated type of system was more compatible with the peculiarity of the latter industries in terms of informational efficiency. The reason why this seemingly irrational phenomenon happened was that the Japanese system was self-enforcing. Such is the crux of the explanation Aoki offers for the path dependence or self-enforcing power of the Japanese system. But this explanation amounts to describing the existence of a specific institution as a stable equilibrium of a game that results from an individual agent's rational calculation of gains even if its rationality is bounded. Indeed some institutions often lead solitary lives separated from the historical movement of capitalism. But the role the institution plays in the world history of capitalism consists in regulating an individual agent's choice of econo-

mic behaviour through the exertion of power or authority immanent in it. It is by stimulating or distorting or hindering an individual's behaviour that the institution exercises influence on the historical evolution of society. The long and the short of it is that the institution means not an equilibrium formed by individual choice behaviour, but sticky social relations which govern individual behaviour conversely and also transform themselves responding to the repercussions of their influence.

This examination of Aoki's theory of the Japanese system revealed the pitfall of methodological individualism that caught also his comparative institutional analysis. But, in addition to that problem, it makes also a big difference to a study of the Japanese system in what sense the efficiency of the firm as capitalist enterprise is interpreted. To begin with, it is unreasonable to ask if the firm is efficient in terms of the use of knowledge, apart from macroeconomic income distribution relations and power relations inside the firm. For instance, whether a knowledge-sharing type of intrafirm organization is efficient or not depends on capital's control over labour as well as on the allocation of informational resources, for the logic of capitalist enterprise, more or less, governs any corporate system.

The characteristics of the Japanese corporate system, in the light of the logic of capitalist enterprise, can be explained as the particularities within the common institutional framework corresponding to the historical pattern of capitalism in the given period, or to be more concrete, as the specific discipline for labour control based on the coeval common principle of capitalist enterprise. Of course, as Aoki argues, it is possible to distinguish conceptually between the Japanese corporate system characterized by contextual skill or knowledge sharing, and the Anglo-American characterized by specialized skill or functional differentiation. But we can not make such a conceptual distinction without abstracting the corporate system from its historical common basis. During the postwar process of sustained growth, both the types of corporate system functioned well as the institutional scheme to stimulate a worker's effort and redistribute the fruits of effort between capital and labour. An increase in wages kept pace with a rise in labour productivity, so that both could establish the cumulative relationship linking a rise in productivity to demand growth. There was no significant difference between both the types with respect to accomplishing this function. According to Aoki's theory, the American system where the functionally differentiated hierarchy based on the 'job control unionism' influenced by Taylorism is prevailing, is less compatible with the assembly-type industry because of its inferiority in horizontal coordination.<sup>2</sup> The American corporate system, however, served as a stabilizing anchor for the so-called Fordist regime of accumulation as effectively as the Japanese did during the process of sustained growth.<sup>3</sup> In this period, the institutional differences between both these systems in their way of utilizing informational resources did not lead to a great disparity in macroeconomic performance. Even if institutional diversities had some unequal effect, the equalizing effect arising from the common function of the institutions must have overwhelmed it.

### 3. Differentiated labour and differentiated demand

It was in the period of structural change after the mid-1970s that the view that some institutional differences may have caused a wide disparity in macroeconomic performance was prevalent in advanced industrial countries.

The postwar sustained accumulation mainly turned on the growth of the durable-goods industry. With this growth mechanism, of which the keystone was the harmonized growth of productivity and consumption, were compatible the institutional arrangements for mass production both inside the firm and outside the firm. But the postwar regime of sustained accumulation collapsed simultaneously with the oil crisis of 1973-4. The following factors cooperated to put an end to sustained accumulation. (1) The reserve army of the unemployed within the country was exhausted. (2) As a result of it, it was more and more difficult for capital to control labour at the point of production. (3) Mass production reached full maturity, accompanied by a slowdown in productivity growth. (4) A great change in the cost structure happened owing to the inelastic supply of energy. (5) The above-mentioned factors combined to make it difficult to adjust distributive conflict between capital and labour. The collapse of sustained accumulation implied that it had lost a key link connecting productivity growth and demand increase. Subsequently, being faced with the wage-price spiral, firms came to consider productivity growth not to be concomitant with securing wages and employment. Although suffering from excess capacity, firms sought to adopt state-of-the-art technologies derived from developments in mechatronics, with a view to raising productivity, reducing employment and curbing a wage increase.

The decline of the mass production system that constituted the technological basis of the postwar regime of accumulation had unequal impact upon advanced industrial countries. There also appeared a large disparity in the degree to which advanced countries could absorb the impact. Consequently, a widespread interest was aroused in the correlation between the diversity in their institutions, especially institutions regulating labour relations on the one hand and a disparity in their macroeconomic performance on the other. That disparity was considered to be due to the subtle differences among countries in their institutional scheme, such as systems for security of employment and wage determination.

Needless to say, the diversity of institutions in capitalist countries was shaped in the process of formation of the sustained growth mechanism, or in some cases before that, and not in the period of structural change after the mid-1970s. When each country had to adjust itself to changing circumstances under the pressure of historical transformation from mass production to flexible production in the capitalist economy, a peculiar practice that had firmly been rooted in its institution had differentiating effect on its adaptability to a particular change. In some countries, a conventional practice specific to their institution made it possible for them to respond more flexibly to changes, cope more quickly with problems, and even anticipate more alertly the direction of structural change. But the reverse was true of other countries. They responded less flexibly, less quickly and less alert-

ly because of their less adaptability attributed to their institutions.

In the period of structural change after the mid-1970s, at least until the end of the 1980s, the Japanese production system was thought of as having a competitive advantage in the world market. The strength of the Japanese system was often ascribed to its advantage of competitiveness in multi-product small-batch production. This explanation seems to be convincing, taking into account the idiosyncratic demand conditions Japanese firms were confronted with in the internal and external markets. After the mid-1970s there was a slowdown in productivity growth in many countries. Even if a considerable rise in labour productivity was occasionally accomplished, it was not always accompanied by a stable growth of output and employment. Thus firms could no more count on extending their markets by mass production and mass merchandising. Instead, how to segment or differentiate a limited market became crucial for firms to gain a competitive advantage. They were forced to respond more flexibly to various and capricious demand rather than simply to sell more and seek economies of scale.

This change in the relationship between productivity growth and demand formation corresponded closely to a change in the structure of income distribution, which, in turn, reflected a change in labour relations. During the second half of the 1970s advanced industrial countries were inflicted with what was known as stagflation. The distributive adjustment between labour productivity and wages, or between wages and profits, lost its elasticity, and the pressure of an impending wage-price spiral restricted the freedom of discretionary economic policies within extremely narrow limits. In the meantime, at the firm and industry levels their efforts towards restructuring were continued in order that the corporate system might recover its elasticity in distributive adjustment and regain its profitability. Many firms introduced new developments of microelectronic technology into the labour process, and replaced regular workers with part-timers or temporary workers. This tendency grew further during the 1980s when inflation was drastically reduced, so that macroeconomic conditions were arranged for elasticity of real wages relative to productivity. The introduction of new production techniques accelerated by the progress of information technology not only resulted in the further segmentation of workers into the regular and the temporary. But it also contributed to the polarization of workers into the skilled and the unskilled, by replacing a traditional type of skilled or semi-skilled work with simple work on the one hand and producing a new type of skill on the other that demanded higher specialized education. And besides, owing to the 'hysteresis' or lingering effect of workers' history that hindered mobility in the labour market, the distinction between the employed and the unemployed got fixed, and also a greater disparity of earnings arose between those who rode the waves of development in the new industries and those who failed to do so. In this way, the economic conditions of workers were differentiated and multi-stratified, having a simultaneous tendency towards polarization.

The shift from mass production to multi-product small-batch production was generally considered to be the inevitable trend in the 1980s. The reason this view seemed plausible



was that a remarkable change occurred in the demand conditions that governed an individual firm's behaviour. The differentiation of the economic conditions of workers was reflected in the multi-stratification of income structure, which transformed market structure from mass markets for standard products into subdivided markets for differentiated products. In short the differentiation of demand corresponded to the differentiation of labour. Furthermore, demand was volatile as well as various, for differentiated demand in itself underwent incessant variation or fluctuation under the influence of structural change in the whole industry.

It is almost useless to make an attempt to explain the strength of the Japanese production system leaving aside its historical background. In the 1980s, when the macroeconomic relationship linking a rise in productivity to an increase of quantity demanded was extremely weakened, a firm's chances of getting an advantage in market competition rested on its ability to respond flexibly to varied and capricious demand of multi-stratified households. The flexibility of labour management specific to the Japanese system conformed to these historical conditions.

#### **4. Halfway between mass production and multi-product production**

If so, why was differentiated demand favourable to the Japanese system? From the viewpoint of Aoki's comparative institutional analysis, as I examined above, the flexibility of the Japanese system consists in knowledge sharing between labour and management or among firms, which ensures elastic responsiveness to accidents or program changes in complementary operations at the shop floor. Its adaptability to structural change, however, can not be evaluated only in terms of informational efficiency. It requires that the role of power or control exercised to cope with dilemmas or conflicts should be appreciated properly. Power has a significant effect in the changing circumstances, and not in the equilibrium where countervailing power cancels out. In the period of structural change in particular, some cracks appear in the complementary relationship among institutions, which causes a shift in the power relationship among those who hold a stake in the firm, i.e., shareholders, management and workers. At such time the adaptability of a corporate system depends considerably on the integrating effect of power that the negative effect of the cracks is offset by. Then what dilemma was the Japanese system faced with? And how did the Japanese system handle it?

In the 1980s 'from mass production to multi-product small-batch production' became a catchword widely received in industry. The term, 'multi-product small-batch production', came to be frequently used although what it really meant was scarcely reflected on. The image of information society that such a futurologist as Alvin Toffler propagated, also, helped to spread optimistic views on the effect of the microelectronic revolution. Many people believed that production to order would rapidly be diffused by virtue of computerization, and that as a result consumers would be able to get their favorite goods manufactured according to designated specifications in a short time. But firms' adoption of flexible production

techniques such as FMS resulted in their failure to accomplish adequate compatibility with efficiency, for flexible manufacturing technology in itself did not come to maturity as a means of controlling diversified production automatically in correspondence to varied demand. Instead firms were caught in the dilemma of diversifying their products, which leads to a decline in efficiency, or making an effort to seek efficiency, which necessitates reversion to standardization.

The production system that fell into a trade-off between flexibility and efficiency can be described neither as mass production nor as multi-product small-batch production. If almost forced to put it, I would call it semi-rigid medium-batch production.<sup>4</sup> The Japanese corporate system functioned as an effective mechanism for mobilizing the subjectivity of workers towards tackling the dilemma, which industry, particularly machinery industry in advanced capitalist countries had more or less in common.

Many researchers in labour relations have pointed out that in the Japanese production system a worker's job is not clearly specialized, and a worker is involved in various sorts of tasks as a member of a particular team responsible for the coordination of different operations. The fact, as characteristic of the Japanese system, that each generalist-type worker could perform plural kinds of tasks had a close relationship with the flexibility that the Japanese corporate system demonstrated in organizing the production system responsive to capricious variations of demand. Japanese firms eagerly introduced flexible manufacturing technology into the labour process, which was facilitated by the flexible mobilization of workers within the team.<sup>5</sup> The adoption of flexible manufacturing technology was inevitably accompanied by changes in the sort and structure of jobs. In the production system where the demarcation between jobs is vaguer and a worker's skill is made more malleable through job rotation, the reorganization of job structure tends to bring about less friction or conflict. That was certainly true of the Japanese system.

According to Aoki's insight, if a corporate system works effectively, semi-independent coordination at the shop floor has to be complemented by centralized personnel administration. But a relationship between the two should not be interpreted in the sense of static duality. When firms have to alter the existing job classification in order to adapt to technological change or market diversification, they find that it involves a shift in the power relationship among stakeholders. In the Japanese production system where jobs were not finely divided, management could wield centralized power to mobilize labour in a firm-wide manner without being entangled in stubborn conflicts over alterations in job demarcation if a change in job structure required personnel rearrangement beyond the range of coordination inside a working team. Ordinary coordination rested mainly on semi-independent judgement or decision at the shop floor level, whereas organizational adjustment to structural change was enforced through management's intensified control over personnel administration. Such a quick conversion from more decentralized coordination to more centralized control of intrafirm labour utilization characterized the flexible responsiveness of the Japanese system to changes in technology and market conditions.

This peculiarity of the Japanese management system contributed towards handling the dilemma of semi-rigid medium-batch production which Japanese firms deeply got trapped in as a result of the earliest and broadest introduction of flexible manufacturing technology into the labour process. The trade-off between flexibility and efficiency immanent in flexible production can be traced back to these sources: first, many difficulties firms encounter in attempting to respond only mechanically and automatically to diversification, and, second, high costs of coordination for a production system as a whole which firms incur when they impose frequent changeovers for multiple production upon each manufacturing process. Because flexible-manufacturing technology left some key operations unautomated, the task of keeping flexible production under quasi-automatic control lay on firms' labour management. And malleable labour rather than specialized labour (or job integration rather than job demarcation) weighed with firms that had to make a changeover from one production to another quite frequently. These conditions gave some competitive advantage to the Japanese production system. Japanese firms mobilized workers without great friction not only in order that within the team workers might rotate in their jobs or assist other workers if need be, but also so that firms might reorganize the job structure smoothly or change the combination of jobs flexibly in response to diversification. And besides, labour mobilization extended beyond the boundary of a firm in the form of 'shukko' or transfer on loan to affiliated firms. This flexible mobilization of labour at low costs enabled Japanese firms to make up for the lack of technological flexibility and cut down costs of coordination for diversification.

What was more important, knowledge sharing within the team as Aoki emphasized it, had a near connection with the mobilization of the subjectivity of workers for the purpose of coordination. Japanese workers' experience of collective involvement in the labour process through job rotation instilled in their minds the consciousness that they were jointly responsible for their work, from which the spontaneous combination of labour's initiative and capital's control grew. This helped firms to relocate workers, retrain them, or even extract intensified and overtime labour from them, for workers tended to accept labour mobilization under centralized control as the outcome of their own collective involvement.<sup>6</sup>

In contrast, the Anglo-American corporate system, in which specialized workers are employed according to rigid job demarcation, and in which information on the coordination of the production system tends to be centralized in top management without being shared with workers, is not always suited to mobilize labour in a firm-wide manner flexibly in response to diversification. During the 1980s American firms were also faced with the necessity of organizational adjustment to a growing tendency towards diversification in technology and market conditions. To this demand American firms responded chiefly by mobilizing fixed capital through the market for corporate control. Mergers, takeovers and buyouts played a key part in the Anglo-American style of adjustment. But this way of restructuring a corporate system was not necessarily effective in handling the dilemma of flexible production.

There is no denying that such a difference between the Japanese and Anglo-American

ways of controlling a corporate system led to a disparity in performance between both these types of corporate system in the 1980s. But the disparity arose, I repeat, under the historical conditions that forced firms to strive to adjust themselves to the transformation from rigid mass production to flexible production in industry.

### **5. The 'bubble' boom and the dysfunction of the Japanese system**

During the 1980s the Japanese corporate system took a lead in improving upon the semi-rigid medium-batch production system, and maintained a competitive advantage in the world market, particularly in the assembly-type industry. But the pattern of its organizational adjustment changed markedly between the first half when Japanese firms' competitiveness was reinforced with an excessive depreciation of the yen and the second half when it was handicapped by the high yen.

At the turning point of the mid-1980s when the yen began to appreciate rapidly, the prospects for the Japanese economy were viewed with pessimism. Nevertheless, Japanese firms could adjust themselves quickly to such an abrupt change in the economic environment, if temporarily. This was partly due to the yen rate that was not always overvalued against the dollar in terms of a trend value which reflected a disparity in productivity growth between Japan and the United States. At the same time, Japanese firms displayed their flexibility in relocating workers across the border. Some manufacturing processes (including raw materials, components and final products) which relied mainly upon unskilled labour were transferred to low-wage countries in Asia, so that the Japanese flexible production system could reduce labour costs and remain competitive internationally. Furthermore, a quick shift to a policy that gave priority to domestic demand supported Japanese-style coordination of flexible production, though foreign pressure on Japan to take the blame for the huge trade surplus obliged the Japanese economy to adopt such a policy.

Under the conditions of extraordinarily low interest rates and cheap inputs procured abroad, active domestic investment gave birth to the boom in the latter half of the 1980s. Domestic investment reached the highest percentage of GDP that Japan had seen since the end of the high-growth period. The boom, however, involved savings holders in speculative investment in assets such as real estate, bonds and shares, and widened remarkably the disparity in asset holdings among them. Consequently, through what is known as wealth effects, the tendency of consumption towards multi-stratification or differentiation grew stronger and demand tended to get more capricious. Wider wealth dispersion, in turn, encouraged flexible production, apparently paradoxical though it seems. This is why the boom did not develop into sustained growth despite vigorous investment activity. To achieve long-run dynamic growth, high investment has to link steady productivity growth to stable demand formation. But the peculiarity of capital accumulation in the Japanese economy during the latter half of the 1980s consisted in the quasi-cycle of diversified production and differentiated demand, which rested upon production of high value added per unit of output rather than output expansion. Ironically, this boom period not only found the Japanese

flexible production system showing its strength, but also found its fragility lurking in the quasi-cycle pattern of growth.

In the boom period when flexible production appeared to be highly evolved, the automobile industry, typical of the assembly-type industry, suffered from a marked slow down in physical productivity growth, which contrasted oddly with a rapid increase in productivity of value added.<sup>7</sup> What did this discrepancy arise from? As I have already mentioned, the firms that adopted flexible manufacturing technology had to deal with the trade-off between flexibility and efficiency, in which the smaller a batch to produce for subdivided demand was, the higher the costs for coordination were in consequence of frequent changeovers. To the extent to which consumers could accept such a rise in costs as part of the price for a customized product (or frequently a 'sophisticated' product) and pay for it, high costs for flexible production were absorbed into prices through income creation, and as a result, apparently, firms extricated themselves from the awkward dilemma. Thus, the macro-dynamic quasi-cycle of diversified production and differentiated demand, at the microeconomic level, manifested itself in the form of a remarkable rise in productivity of value added as contrasted with stagnating physical productivity.

But, in this quasi-cycle, inefficiency in capacity utilization hindered firms from recovering huge expenses for fixed capital, and coercive mobilization of labour for the purpose of just-in-time response to subdivided demand brought about various forms of overwork and workers' exhaustion. Furthermore, on the other hand, firms relied on soaring prices of securities and real estate for both financing high investment in flexible production and finding outlets for commodities as the outcome of this investment. Enormous capital gains, from soaring prices of assets, accrued to savings holders involved in speculative transaction. These windfall incomes stimulated demand for diverse luxurious goods, in expectation of which firms invested heavily in multiple production of high-value-added products, only to go too far in diversification.

This shows that the strength of the Japanese system and its fragility were opposite sides of the same coin. The boom period in the 1980s was, so to speak, the heyday of the Japanese system, when Japanese firms expanded overseas investment widely and consolidated its position as creditor. If Aoki's theory had held true in this period, the Japanese system must have displayed its institutional complementarity to the full. As it was, the main bank system could not perform properly the functions of risk sharing and monitoring for firms because firms became less dependent on their main banks for financing, with the result that the ratio of direct financing to indirect rose rapidly. Security prices driven up by speculative transactions (which were financed by the banks that lost some lending outlets because of an increasing tendency towards direct financing) helped firms to obtain investment capital at low cost, or virtually for nothing, through equity financing. Risky investments, which would have not materialized except during this 'bubble' boom, were rampant as a result. The function that main banks were supposed to perform in monitoring business investment was thus becoming merely a name. Even if risk sharing by main banks

had any effect on business investment, it degenerated, through acting as a guarantee for risky investment, into a function as a trigger for moral hazard. Nonetheless, the apparent strength of the Japanese flexible production system originated from the dysfunction of the main bank system, for the production of high-value-added products, which covered high costs flexible production entailed, were boosted by direct financing at small cost through capital market.

The dysfunction of the main bank system is only one example of declining institutional complementarity implicit in the apparent strength of Japanese-style flexible production, known as 'lean production'. Japanese firms' steps towards international relocation of production impaired another important element of institutional complementarity, the relationship between a parent company and its subcontractors. Rapid appreciation of the yen crucially weakened the competitiveness of Japanese medium and small-sized enterprises. At the same time this threatened the competitiveness of parent companies that had depended partly on their subcontractors for cheap labour, special skill and specialized knowledge. Although Japanese firms met these difficulties by relocating production across the border, it had a double-edged effect. It is true that the transfer of production to low-wage countries made it possible for firms to sharply reduce labour costs, but the complementary relationship between a parent and its subcontractors at home, naturally, became weakened as a consequence. Parent companies occasionally got their subcontractors to follow them in their production transfer abroad, aiming at establishing cooperative relationships with suppliers, represented by the just-in-time method for delivering parts, in local production. But a technological gap and a difference in the business climate posed serious obstacles to their attempt to transplant a Japanese-style production system.

The cooperative relationship (forged by parents' power) between parents and subcontractors, through which a Japanese large corporation could utilize flexibly human factors both within and without its limits, formed a permanent base of the Japanese system. In other words, firms as a group could share, to some extent, labour, skill and knowledge. This ensured each firm a flexible response to various changes in circumstances. The degree to which such an effect enhanced flexibility in manufacturing was highest in the industry that was most dependent on subcontractors for parts or components. In the assembly-type industry, representative of such an industry, where Japanese firms had kept a competitive advantage, it was more and more difficult for them to demonstrate their strength in flexible adjustment. How to interpret this sign of transformation is an important issue that divides one's evaluations on how to view the future for the Japanese system.

Even inside a large corporation, there emerged a move to modify the conventional production system. Though Japanese firms covered high costs due to unreasonable diversification by making flexible use of labour and promoting the production and sales of diverse high-value-added products, this method came to an impasse at the end of the 1980s when the boom overheated. Extreme tension and exhaustion at the point of production, combined with a shortage of the young labour force and young men's evasion of overwork, prevented

firms from mobilizing labour in a firm-wide way. In addition, a heavy burden of fixed costs entailed by overinvestment and a stagnating demand for high-value-added products caused a decline in profitability. Immediately after the bubble popped, the dilemma of multi-product production revealed itself nakedly. Leading Japanese industry, such as automobile manufacturers, were obliged to change their policy of flexible production, and to proceed to lengthen the intervals between car model changes, standardize components, and reduce the number of types of car.

Signs of change began to appear also in Japanese-style labour management. The essence of the flexibility Japanese firms showed lay in the centralized control of personnel management under which multi-skilled workers were, at the right time, relocated to the place that required them. Japanese engineers had attached greater importance to the process automatically controlled by human labour itself than to merely mechanical automation. The 'Kanban' system (the just-in-time method) developed at the Toyota factory materialized the aim of getting human labour's malleability to complement semiautomatic operations in the labour process. However, early in the 1990s, this system could not fulfill any longer its sufficient function to assist flexible production. As a result Toyota began to grope for a new way to transform from an inwardly closed system of labour mobilization to an outwardly open system of labour utilization. We found some experiments that indicated such a change. For instance, in the new guidelines for business strategy, Toyota set forth policy changes which intended to lay more weight on workers' specialized skill and independent judgement as specialist; besides, to reduce working hours, to make most of the female labour force and to harmonize a Toyota-style method of production with the different business climate abroad.<sup>8</sup>

Where this transformation as a whole will eventually lead the Japanese system is not obvious for the present. But we can to some extent foresee with what problems the Japanese system will have to grapple under the changing conditions of the 1990s. And from this examination we can conjecture some possible directions in which the Japanese system will evolve. In the next section I discuss this aspect of the issue concerning the future for Japanese capitalism.

## **6. Network-type production and evolution of the Japanese system**

The difficulties that confronted Japanese firms in the 1990s were represented by cost disadvantages of Japanese personal computer manufacturers. NEC, the biggest manufacturer in the Japanese computer industry, had long held a monopolistic position in the domestic market for personal computers, but facing keen competition from abroad, lost a considerable share of its market. Most of personal computers built by Japanese manufacturers for domestic demanders had specific hardware features that differentiated the Japanese model from the de facto worldwide standard. As computer and network technologies made rapid progress, personal computers and other related electronic products came to show greater promise as new mass-produced commodities comparable to the conventional durable goods, for which the market had been almost saturated in advanced industrial countries. In such a

growing market IBM PCs and compatible computers won a position as the standard, and threatened to drive the Japanese differentiated model out of the market by force of low prices and their compatibility with plenty of software or hardware. Standardization of computers (based on modularization of components) and mass production of them enabled manufacturers to greatly reduce costs of production. Accordingly, price competition from foreign manufacturers became so fierce that domestic computer markets could not be protected against compatible computers by product differentiation. NEC computers' sharp decline in the market share indicated that a new pattern of competition was emerging. Firms got to be in competition to undersell one another. Falling prices undermined decisively the foundation of Japanese flexible production because they made it more difficult for firms to compensate for inefficiency in flexible production by high value added to differentiated products.

Diffusion of compatible computers revived mass production of standardized products, though to a limited extent. But it is not a mere reemergence of what was lost. Today's mass producers disperse their production sites to the best places of the world, and integrate them efficiently into a network. Their choice of production sites is fluid. As soon as a change in economic environment deteriorates profitability of any local factory, they withdraw investments from there. In addition, a firm's competitiveness on world markets depends also upon its ability to win a de facto standard, which demands its capability of developing and designing new products. If once a firm win a de fact standard, it turns mass producer overnight. This type of mass production is already prevailing in the computer sector of the information industry.

The new type of mass production system utilizes a global network intensively. The rapid technological progress in the manufacture and use of computers has opened up greater availability of the network. A cumulative relationship is, in consequence, growing between an increase in availability of the network on the one side, and a rise in demand for personal computers and related products on the other side. Intensive utilization of the network has manifested its pervasive innovating effects not just in the manufacturing sector but in distribution, finance and consumer life. These effects stimulate development and production of new commodities associated with the use of computer networks.

Nevertheless, the emerging cumulative relationship still lacks a key link which is necessary to expand demand for computers and related products, beyond that for producer goods, so as to encompass consumer goods suitable for people's needs. The missing link is the proportioned property relations that ensure a more equitable distribution of increasing returns accruing from technical progress. As a matter of fact, during the 1990s the globalization of capital has brought domestic unskilled workers into bitter competition with low-wage workers in developing countries, and has strengthened the tendency (which the 1980s had witnessed) towards the polarization between differentiated classes of labour, that is, between complex labour and simple labour, or regular labour and irregular labour. Labour polarization and resultant wider wage differentials have kept increasing returns from being



shared among all the strata of society. Today innovative firms, represented by Intel or Microsoft, win frequent 'runaway victories' in competition for new markets, and keep the lion's share of increasing returns. This phenomenon implies that the new dynamics of increasing returns have a strong bias towards concentrating wealth in the hands of a few and therefore have not yet established a firm base for steady demand formation essential to the cumulative relationship.

It makes a big difference to the Japanese system how it adjusts itself to the recent trend towards a global-networked production system. As I argued above, the Japanese system showed its flexibility mainly in intrafirm labour mobilization that is essential for semi-rigid medium-batch production prevalent in the assembly-type industry. A Japanese worker's flexibility as multi-skilling presupposes centralized control of labour mobilization. Centralized control of labour mobilization is more effective in coordinating diverse tasks within a given general framework for production than in creating a basic framework for production or in restructuring it. This feature of Japanese-style labour utilization is not fitted for a global-networked production system. Today, transnational corporations have a physical presence in many countries, but their investment in the local economy and withdrawal from it has been quickly responsive to changes in business environment. They often have not even their own factory, particularly in the information and related industries, and, acting as a sort of merchant capitalist, organize or reorganize a global network of enterprises flexibly in response to the changing needs of all the world. In such a case, the decentralized utilization of labour through external labour markets offers quick access to productive factors scattered throughout the world. Thus, it is difficult for a Japanese firm to transform itself into such a global network without reorganizing its closed labour mobilization system into an outward-opened labour utilization system.

It is frequently said that the Anglo-American production system, which has a decentralized system of labour utilization, is regaining their vigour through advancing the progress in information and communication technology. This impression is, to some extent, founded on recent developments in industry. In advanced industrial countries the center of development in the assembly-type industry is shifting from conventional consumer durable goods to computers and other related electronic products. These growing sectors have gradually shown their dynamics of increasing returns due to greater availability of the network opened up by new technological progress. As development in information and related industries gains momentum, network-type production, with which the decentralized utilization of labour is relatively compatible, tends to be more dominant.

Issues on reform of the main bank system (the so-called Japanese version of Big Bang), also, can be interpreted in this context. The Japanese financial system that had fallen into dysfunction at the end of the 1980s has revealed its structural fragility in the 1990s when new developments in information technology, such as multimedia, the Internet, intranets and electronic commerce, have appeared one after another. In contrast to the Anglo-American system where stock and bond markets play a major role in financing the information indus-

try, the main bank system is far from fulfilling properly its function as provider of finance for venture business that innovates new techniques and products in this industry.

However, if we predict that all these developments will converge eventually into one Anglo-American economic system, it is an oversimplification. Conventional durable goods, in which the Japanese system can still display its strength, have become promising commodities on growing markets in developing countries. Viewed from the perspective of world economy, in some sectors, advanced industrial countries are no longer powerhouses for manufacturing. Huge foreign direct investment has accelerated industrialization in Asia, where some developing countries have rapidly grown up into the second-tier NIEs (such as Malaysia, Indonesia and Thailand), following the successful first-tier Asian NIEs. And the Chinese socialist economy protected a long time against foreign competition, though still groping for the alternative way to an industrial nation, have opened its potential mass market to the capitalist world and forced the pace of economic development. Although the financial instability (due to speculative investment) in the first half of 1997 cast a cloud over the Asian market, in the near future these countries promise to achieve a consumption revolution similar to the one that advanced industrial countries experienced. These circumstances afford Japanese firms a good chance of finding their way into conventional durable-goods markets in Asia.<sup>9</sup>

In these markets, of course, Japanese firms must compete with latecomers from the Asian NIEs, but what counts for much in this competition is how to transplant a system of centralized labour mobilization into the local economies. As a matter of fact, some problems loom large before Japanese firms that attempt to capture a growing market. First, in low-wage countries, it is difficult for Japanese firms to procure multi-skilled labour requisite for intrafirm labour mobilization because training for multi-skilling entails large costs and takes much time. To put it in another way, the motive for direct investment in developing countries (utilization of low-wage labour) is incompatible with that for transfer of a Japanese-style production system (technology transfer). Second, instead, if Japanese firms export finished products that are manufactured by Japanese high-wage workers from production of components to assembly of them, it impairs the international competitiveness of Japanese firms. Third, therefore, it follows that Japanese firms are prone to adopt an eclectic method for dealing with this dilemma. That is, on the one hand they relocate only low-technology sectors abroad which depend mainly upon low-wage workers for unskilled labour, and on the other they keep high-technology sectors at home in which high wages are expected to have a stimulating effect on a worker's effort.<sup>10</sup> Fourth, de-industrialization in the home country, which results from production transfer abroad, presents a problem of how to coordinate two separate organizations that differentiated functionally into a manufacturing division abroad and a non-manufacturing administrative (or research and development) division at home. This problem obliges Japanese firms to modify their organizations characterized by intrafirm knowledge sharing for the new trend towards a functionally differentiated type of knowledge utilization. It is also closely connected with a macroecono-

mic problem of how to enhance efficiency in domestic tertiary sectors.

Lastly, suppose that local subcontractors are likely to rapidly grow up in the second-tier Asian NIEs or the Chinese economy. Although we can not deny such likelihood, we expect the Japanese parent contractor to face the difficulty of sharing with the local subcontractor each other's skill and knowledge with its respective cultural backgrounds. Since the subcontracting relationship is the main vehicle to extend centralized control of labour mobilization over intercorporate relations, this cultural friction prevents Japanese firms from introducing the Japanese model of production into the local economy. It goes without saying that similar friction can arise also between management and labour inside the Japan-based local parent company. Globalization of capital has thus revealed that a production system is not a mere physical combination of mechanical components but an institutional combination of cultural elements.

### **Conclusion**

In what direction a capitalist economic system evolves depends largely upon three conditions: first, the pattern and character of technological development in commodity production, second, the relations regulating income distribution, and, third, the dynamic relationship between production of and demand formation for commodities. Then, with the turn of the century close at hand, where is Japanese capitalism heading for?

During the period of sustained growth, the cumulative relationship that linked productivity growth to demand formation through reasonable income distribution was firmly established. Mass consumption kept pace with mass production. The large-scale production of standardized durable goods brought about dynamic, rather than static, increasing returns, which formed the foundation of the postwar long-lasting boom. In the 1980s, by contrast, the quasi-cumulative relationship between a diversification of production and a growth in demand for diverse high-value-added products masked the trade-off between flexibility and efficiency inherent in semi-rigid medium-batch production. After the mid-1970s when the postwar sustained growth regime collapsed, the rapid progress of information technology contributed towards imparting flexibility to the sclerotic mass production system, but, on the other hand, it caused differentiation of labour and wide wealth dispersion, which in turn led to differentiation of demand. Furthermore, information technology itself could not serve to solve the trade-off between flexibility and efficiency. Against this historical background, the Japanese system displayed its strength in intrafirm labour mobilization, but, at the same time, betrayed its weakness in intercorporate labour utilization through external labour markets.

In comparison with both these distinct patterns of development, the macro-dynamics of Japanese capitalism at the turn of the century has not a fixed pattern, and does not seem likely to have in the not too distant future, either. Manufacturing firms in advanced industrial countries, including Japanese firms, have relocated its productive capital over the border, particularly to low-wage countries. Many transnational corporations are competing to

achieve cost competitiveness by integrating, through a computer network, production sites located in the best places of the world. This global competition among firms has brought the Japanese system under great pressure to transform itself both at home and abroad. Some of Japanese firms, under pressure of price competition, have groped for an effective way to transform their domestic closed system into a globally networked system. On the other hand, a transfer of production from Japan abroad, more or less, involves firms attempting to transplant a Japanese-style system into the local economy. Such an attempt poses to Japanese firms a problem of institutional, or cultural, friction with the different business climate from the Japanese. A solution for institutional friction needs to be offered, by Japanese firms with large investments in developing countries in particular, as a way of harmonizing plural heterogeneous institutions so as to ensure compatibility with developments both at home and in the local economies. The two possible directions in which Japanese firms are expected to evolve—one is towards a globally networked system, and the other is towards a harmonized compound of heterogeneous organizations—are still barely within sight. All these circumstances imply that the Japanese system will take much time, even if possible, to evolve into a new system and to give birth to another pattern of dynamics.

In short, what we can find out now is that the Japanese system is driven to transform itself by the two growing vectors that exert opposing or intervening influences upon each other. One vector is typical of the dynamic growth of the information industry, and the other is exemplified by the structural changes (which involve global relocation) that the conventional assembly-type industry is undergoing. Viewed from a different angle, while the former indicates one evolutionary course that points towards a worldwide-networked system efficient enough to meet fierce competition on a homogeneous global market, the latter indicates another course leading to a compound system which globally harmonizes diverse blending of the Japanese institutions and the other country-specific ones, rooted in heterogeneous local markets.

## Notes

- 1 See Aoki (1988, 1995), and Aoki and Okuno (1996).
- 2 Aoki does not identify the postwar labour relations in the United States with *Taylorism*, but, following an institutional economist, describes it as 'job control unionism' (Aoki, 1988, pp.16-17). Although this interpretation is reasonable, what characterizes the difference between the Anglo-American system and the Japanese is the distance from *Taylorism*.
- 3 Noguchi (1990) explains the mechanism of the postwar sustained growth in Marxian terms as 'anticipated production of relative surplus-value'. This is much the same as what French regulationists call the Fordist regime of accumulation. The idea of the sustained growth mechanism, from the viewpoint of economic theory, derives from Nicholas Kalor's theories of technical progress, distribution and growth rather than Antonio Gramsci's foresight or Michel Aglietta's inspiration. Therefore, we can also call it the

Kaldorian regime.

- 4 For the concept of a trade-off between flexibility and efficiency, see Ayres and Miller(1981). Noguchi(1996a) reformulates this engineering concept into a socioeconomic one and, upon it, founds a new concept of 'semi-rigid medium-batch production', which denotes a production system that embodies the dilemma of whether to diversify at the cost of efficiency, or to mass-produce with much sacrifice of flexibility.
- 5 The term 'mobilization' has two senses. One is to make mobile, and the other is to organize towards a specific use. The Japanese system is orientated towards mobilization of labour; on the other hand, as discussed later, the American system leans towards mobilization of fixed capital.
- 6 This issue concerning Japanese workers' loyalty to the company they work for is associated with a theme Burawoy(1979) discusses. In the capitalist labour process, 'an element of spontaneous content combines with coercion to shape productive activities'; and institutions that 'mystify the productive status of workers' grow from this combination (ibid., pp.xii,25). Suzuki(1994) also addresses a similar issue.
- 7 See Uemura,H., A.Isogai and A.Ebizuka (1996), pp.24-25.
- 8 Arai(1996) summarizes controversies in Japan over Toyota's attempt to modify its business policy.
- 9 There is a very long-period problem whether terrestrial environment or limited natural resources allow worldwide economic development to proceed persistently. But this paper puts aside this very long-period problem, and focuses on capital accumulation in the near future. Incidentally, the methodological standpoint of this paper is on the basis of 'middle-range theories' of capitalism that integrate historical descriptions and structural analyses. For a more detailed discussion, see Itoh, Noguchi and Yokokawa (1996), Introduction.
- 10 The disparity in technological levels of firms has considerable influence on their choice between low-wage labour and high-wage labour, for wages have a stimulating effect on workers' effort. For this point, see Ramaswamy and Rowthorn(1991).

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