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COMPETITION AND COOPERATION  
IN THE JAPANESE EXPERIENCE  
Papers from the Fourth Italy-Japan Workshop

by

MASSIMO DI MATTEO \* and LIONELLO F. PUNZO \*

1. Many interpretations of Japan's Post-War development have been offered, in Italy and elsewhere. Some attribute it to the socio-cultural environment, others to what could be termed "flexible rigidity", and others to the peculiarities of Japanese industrial relations and/or of the role of government in directing development, and fostering macroeconomic adjustments and structural changes, if and when needed. There is no uniform explanation, based on one or two fundamental "causes", for Japan's success. Although the five essays published in this issue do not present a coherent and comprehensive interpretation of the workings of the Japanese economy, they offer some elements to understand the maze of analytical issues arising from a reasoned reconstruction of the country's post war development. Perhaps they are the most interesting aspects, from the European point of view. Our selection provides two interesting viewpoints on the overall interpretation of Japan's fast growth dynamics: one from *within* Japan, by Ryutaro Komiya, a well known authority in recent Japanese economic history and industrial policy; an alternative, partially conflicting, partially consistent viewpoint from *outside* by an Italian researcher, Gianni Fodella, who can claim great familiarity with Japan and the Far-East in general (due to his past personal history and present diplomatic position). Next, the selection offers three "windows" on specific aspects of Japan's economic statics, a system with a "relational network" of its own. These focus respectively on the relations (possibly of a hierarchical nature) *among* firms (Banri Asanuma), *between* (specifically manufacturing) firms and banking and financial institutions (Toshihiro Horiuchi), and *within* firms, between workers-em-

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ployees and the firms as training institutions (Mari Sako). Although the emphasis is different in the various papers, on the whole they all suggest international comparisons.

It is appropriate to mention that the papers were originally conceived as contributions to the Fourth Italy-Japan Workshop, the last in a sequel of Forum-like meetings held in Siena starting in the Spring of 1987, and organized by a joint research group between the Department of Political Economy and STICERD at the London School of Economics and Political Science. Besides its regular research activity, the group promoted the interchange of views and experiences between professional and academic economists of the two countries by organizing regular workshops. Most of the papers read at the earlier meetings have already appeared elsewhere<sup>1</sup>.

In this short introduction, we shall only try to point out some key elements common to the papers; however, comments on some of the issues go beyond our limited scope.

As a unifying theme one can call attention to an empirical observation: Western-style competition, though certainly important, is not the only force which can drive an economy on a successful development path. The Japanese post-War experience reveals the complex blending of the forces of competition with those of cooperation, both internally and in relation with the external world, in a fashion that is considered unusual in standard doctrine. It is much easier to see and appreciate the power of such intricate connections after forty years of development than it was at its outset, in the early 50s. The root of Japanese success, it seems now, lies in perceiving from the outset that a mixture of competition and cooperation could prove a successful political and economic recipe, as well as guessing the right proportions of these two ingredients.

In Italy the widespread interest for Japan springs from an "impression" of great similarity in the positions of the two countries at the end of WWII. Hence the economic strategy (broadly defined) implemented so successfully in Japan may have been an option for Italy too, but unfortunately it was not taken up. Although great care is, obviously needed in drawing comparisons when there are important "structural" and cultural differences as in this case, it can easily be remarked that the two countries had similar political experiences before the War and were substantially hit by them;

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<sup>1</sup> The working group, coordinated by Michio Morishima and Lionello F. Punzo, was established in the framework of a research project involving the Department of Political Economy of the University of Siena and the Suntory-Toyota Foundation (STICERD). On the Italian side, financial support was granted by the Consiglio Nazionale delle Ricerche, under contracts no. 86.01273.10; 87.01158.10; 88.03104.10.



neither could they count on domestic production of raw materials or on energy sources. Finally, they both had high labour/land ratios. Why did they take altogether different directions as far as economic strategy is concerned? Was the Japanese choice, the result of "natural attitudes", e.g. of the Japanese conception of social organization as a hierarchy, or the result of political engineering, or both? This is the issue when we come down to it. In the sequel some notes are offered in the vein of comparing Italy and Japan. (Perhaps one should be bold enough to tackle other comparisons, e.g. with the present situation in the Eastern European countries, as by now suggested from various parts).

2. For the interplay of the policy principles of competition and cooperation in post-war Japanese economic history, one should read the essays by Fodella and Komiya, which can conveniently be read together. Here, we would like to take up the case of the industrial policies from Komiya. To evaluate past policy choices one could use a counterfactual methodology, and ask what could have been the result of faithful adherence, by Japan, to a version of the *laissez-faire* doctrine (the doctrine of unrestricted or completely free competition). First of all, it would probably have entailed the liberalization of trade and capital movements and thence a domestic industrial structure which would have been entirely shaped by its international comparative advantage. No doubt, the realization of the former has been among Japan's policy priorities since the early 50s, a point stressed by Komiya. At the same time however, and perhaps even higher in the policy ranking, other guidelines were defined and strictly adhered to. Policy-makers were concerned first of all with providing Japan with a substantially complete industrial matrix. It is in this perspective that active support for the development and/or modernization of sectors classified as key sectors, such as energy, steel, and shipbuilding, was decided and vigorously carried out. In this light one can rationalize government support of those branches of the chemical industry which were instrumental in improving productivity in agriculture and reducing the dependence on wool and cotton of the largely home-based clothing industry. To use Ricardian (and neo-Ricardian) terminology, all these measures show the marked prominence accorded in policy decisions to securing the production of wage and basic goods. Komiya refers to Marx's reproduction schemes as an inspiration of this "industrial structure" policy; we feel the reference needs some qualification: there is a big difference between Japan and the USSR of the late 20s where Marx's reproduction schemes were indeed used for planning purposes.

At the basis of the Japanese historical experience there appears to be a



definite sense of means-and-ends hierarchy among the various industries. Putting them on the same footing is typical of the liberistic doctrine (specialization is always good whatever the industry involved) which then is totally unable to cope with the complex problems arising in the industrial structure of an economy undergoing qualitative change and development. For a variety of reasons, but significantly for lack of technological know-how, human skills, specific capital goods and production plants, and the like, the development of certain branches of heavy industry might prove impossible, or simply too onerous, after a country has ended up specialising in light industries. A strategic though temporary import substitution at an early stage of development is not at all in contrast with the development of a competitive edge in the world market. This strategy was implemented in Japan after successfully fighting its postwar inflation with a drastic monetary squeeze (well before Japan's appearance on international markets).

The experience of tough deflationary monetary policy is shared by Italy, but that is all: the main differences between the two countries were soon to emerge. Indeed, government policy aimed at shaping Japan's industrial structure according to strategic long term choices continued long after the first postwar phase (the first stage defined by Komiya), and well into the late 60s. Generous support was granted in a variety of ways to a number of industries: the automobile industry, petrochemicals, machinery, electronics, colour films, computers and semiconductors. Komiya is skeptical about the effectiveness of such support, maintaining that such industries would have developed anyway.

Italy had some good points at the start in many of the same sectors as Japan. The literature suggests that a selective "industrial structure policy" modeled on similar principles, though perhaps with different priorities and key sectors, could have proved a success. This was not what happened, as is well known. Even the potentialities of a large section of state-owned firms, which could have been used for policy-purposes and were for this reason a very much admired heritage of the pre-war economy, at least up to the 60s, were to be soon destroyed for reasons that we know too well. These firms actually turned into a major source of weakness in the Italian industrial system as a whole. Very recent events further confirmed this sad picture.

Komiya reminds us that the simultaneous presence of considerations of competition and efficiency in the traditional sense was preserved in the conception and implementation of Japanese industrial policies. Such policies were solidly founded on microeconomic levels of action, reaching not only whole industrial sectors but also individual firms (even single plants). Encouragement was given to mergers (in order to exploit economies of scale),



and support granted to facilitate internal reorganizations of firms, standardization of methods and products, and so forth. Due attention was paid to devising tariff structures in clear preference to manoeuvres of the rate of exchange, even when this was clearly overvalued, as in the 50s.

As Komiya recalls, Japan pursued the target of trade balance as soon as possible. A trade deficit must be financed by capital inflows or curtailed by deflation. The former alternative sacrifices neither employment nor domestic output; however, to let foreign capital enter without restrictions is certainly onerous in the medium term, and in the short term it implies reduced autonomy in monetary policy. Only when "structural independence" has been reached can a program of trade liberalization be safely pursued. This is confirmed indirectly in Fodella's comparison with European and US development. He rightly emphasizes, it seems to us, that only "structurally strong" countries can afford (almost completely) free trade, and here the adjective "structural" designates what the Japanese seem to have always had in mind when deciding both individual measures and grand policy schemes, such as "MITI visions".

Practical implementation of policy has changed in time, and Japanese government policy has also evolved, as reconstructed from MITI Research Unit director, R. Komiya. Even in the period immediately following the first oil shock, Japan's policy tended to temper (or to "fine tune") the targets of increasing the levels of competition and economic efficiency with that of stability via cooperation. In this period MITI produced a whole series of "visions", documents based on consultations among private firms, trade unions, other social partners, ministerial civil servants and economic experts, that indicated the scenarios towards which the country was to move. This dissemination of comprehensive and homogeneous information, a drastically innovative instrument of industrial policy that became more and more important, effectively enabled otherwise uncoordinated economic agents to form robust expectations that could take into account explicit government "preferences" and carefully selected economic priorities. Public releases of "visions" practically reduced uncertainty in the general economic environment while forcing upon perhaps reluctant and short-sighted economic operators an unusual consciousness of the long-term framework of economic decisions. Japan as a country became conscious of its attained structural strength and of the fact that it was the appropriate foundation for continued high-tech growth.

Unanimity in political decisions affecting the economy and social cohesion are the foundations of Japanese government efficiency and competitive edge on the world markets. This is rendered possible by a peculiar blend of



institutions, laws, rules and social procedures used to reach collective decisions. Fodella observes the permanent, or slow changing role of culture and institutions that make up the unique physiognomy of a country (e.g. Japan, the NICs, etc.) and introduces a catchy neologism, "orgware", to indicate this blend, or rather to indicate what is neither social "hardware" nor "software". Obviously, these are issues which are becoming more and more relevant in the uncertain European scenario, as shown by the increasing emphasis placed by EC policies on targets of social cohesion.

3. The financial sector is perhaps the sector where cooperation, rather than competition, seems to prevail. It is well known that large Japanese corporations are typically organized in groups that also include small and medium size enterprises. Within each of these groups, large firms are connected to one another by a closely knit network of cross and mutual ownership. However, the single largest shareholder of a corporation is a major bank (its "main bank") or an insurance company. This leads to the stabilization of corporate ownership and the distinction between ownership and control tends to blur. Its main purpose is to eliminate the possibility of hostile or external takeovers, and these are indeed rare in Japan. Mergers, on the other hand, generally decided in the restricted circles of the top management of the firms involved, are comparatively more frequent.

The advantage of such a widespread property arrangement is that corporations are not discouraged from engaging in risky projects, unprofitable in the short term, but promising major innovative breakthroughs in the long run. The so-called "short-termism" which seems to affect the Anglosaxon financial system, is unknown in Japan and firms are not compelled to target their strategies to the sole objective of pleasing the management of pension funds, as often happens in the US and UK. The absence of the so-called "sanction of the market" does not necessarily lead to lower efficiency and inability to compete worldwide, at least in Japan.

Against this background, T. Horiuchi focuses on the variety of relationships between firms and their main bank(s). As a result of operating in collaboration with a large corporation over a long period, the bank acquires internal, firm-specific information, to the firm's own benefit, especially in bad times when the bank is often called to the rescue. Being its major shareholder, the bank has a direct interest in the long-term health of the corporation. Contrast this with a situation in which internal information of the firms is freely available on the market (as is in the Anglosaxon economic environment): share prices would tend to be less stable; takeovers



would become feasible and the stable relationship between firms inside and outside the group is lost.

Again, competition is not altogether absent from Horiuchi's picture, since large corporations have more than one main bank, and small to medium size firms tend to be more dynamic on the capital markets. Exploiting data from a large empirical investigation, Horiuchi highlights the differences between the situation of large and of small and medium firms.

4. The differences in the industrial and economic relations entertained by small and medium size firms and those associated with large firms have provoked keen interest in economists concerned with the Japanese economy. According to many, the best known features deemed to be characteristic of the Japanese system as a whole (eg. life employment, the seniority career scheme) are actually confined to large corporations. The extent of subcontracting arrangements between large and small/medium size firms, the crucial role of the latter as employment and output buffers, like the limited development of vertical integration, have also often been stressed. To increase their flexibility, large firms take advantage of labour market segmentation by delegating to small and medium firms that part of their production which might be environmentally dangerous or whose demand is unstable. It is a general observation that smaller firms have to raise their relatively lower wages to be able to recruit workers over an upswing, whereas they are the first victims of recession when the wage wedge re-opens in favour of large firms. Japan's dualism, cutting across the labour market and the enterprise structure, again reminds us of similar features in the behaviour and structure of the contemporary Italian economy.

B. Asanuma studies a fairly general aspect of these relationships between firms of different sizes, namely the relations between suppliers of intermediate parts and the assembler-manufacturer: his case study is the automobile industry. Here again we find another instance of "balanced mixture" between competition and cooperation which may be the key, among other things, to the high quality and reliability of Japanese manufactured products and the "lean production" schemes, so famous in the automobile industry. To obtain these results, it is not sufficient to buy from whoever happens to be the least-cost supplier at any moment; it may be more important to have quality-dependable intermediate products and component parts that comply to the exact specifications to fit the final product. For this, a closer relationship between the assembler-manufacturer and the subcontractor is required, extending down to the design and production planning stage. Asanuma points out some striking differences between stand-



ard Japanese and typical North American behaviours in the automobile industry.

Such a close relationship presupposes a high degree of cooperation and trust. Competition, on the other hand, is somehow preserved through periodically held auctions to contract out to the best supplier. This attitude reveals how "learning" is important for the smooth and efficient functioning of an economic system: "learning by doing" as well as "learning by talking". Enlarging Williamson's theory, Asanuma aptly labels the emerging skills, "relation specific skills".

5. Another feature of the Japanese economy attracting attention in the West is the attitude and somehow legendary performance of the Japanese worker. To a Western economist the threat of being fired is the classical employer's instrument for "convincing" workers to discipline on the shop floor. How can labour efficiency be compatible with lifetime employment? If the worker can be induced to identify with the firm employing him, his future is inextricably linked with the economic health of the firm. This attachment and the resulting good quality of work can be cultivated in various ways. One of them is stressed by M. Sako in her comparative study of the job-training systems in Britain, Germany and Japan. Continuous on-the-job training is a common practice in Japanese firms, and makes production processes smoother by incentivating workers to take an active part (eg. via quality circles and the like). Workers' pay is related to age, but also to individual merit, Sako stresses. Before the advent of mass production, the artisan or small producer took pride in his work. Fordist mass production is supposed to have swept this feature away; the Japanese seem to have found a way of preserving it.

6. Undoubtedly Japan has some sort of recipe "of its own" for high economic growth, and has been able to use it at least until very recent times. We do not know all its ingredients, and some of them, are probably not available in the West. This remark goes in the direction of Fodella's theory that national "orgware" is the key element of a country's performance and thus of Japan's success. Fascinating as this theory is, it is hard to judge its merits in the present generalized climate of poor economic performance and growth.



## THREE STAGES OF JAPAN'S INDUSTRIAL POLICY AFTER WORLD WAR II

by  
RYUTARO KOMIYA \*

### I. INTRODUCTION

When looking back at Japan's industrial policy in the post-World-War-II (WWII) period, it is important to pay due attention to its development over time. This is because Japan's industrial policy has not been an unchanging entity over the forty-five years since the end of WWII, but has been changing a great deal in its tasks, contents and tools to meet the changing needs of the times. As time passed, new approaches to industrial policy were adopted, and older ones altered or abandoned.

In reviewing Japan's post-war industrial policy, it is best to start by dividing the whole period into three stages or periods in relation to Japan's economic development.

The Japanese economy has shown a striking development over about half a century since the end of WWII, with its per capita Gross National Products (GNP) at a very low level in the decade immediately after the war but now exceeding that of the United States and most European countries in recent years. In the process of this remarkable development, the Japanese economy passed through several evolutionary stages or periods. Industrial policy also went through several stages or phases correspondingly. Obviously

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it is difficult to divide this 45-year process into clearly distinct periods according to some precise criteria. Any division is bound to be arbitrary. In the following I will examine post-war Japan's industrial policy in three stages as below <sup>1</sup>.

*Stage 1. 1945 – the First Half of the 1950s*

This period may be described, in short, as a time of devastation, disorder, reconstruction, groping for the future, and "independence". Having lost more than 30 percent of its national wealth in World War II, Japan started pursuing economic recovery amid destruction, devastation and disorder due to the defeat. It was grappling with the near collapse of its industrial infrastructure, a large number of repatriates, sluggish industrial production, hyperinflation, and severe hardships among its people.

As Japan was occupied by the Allied Forces during most of this period, the nation's economic policy was supervised by the General Headquarters of the Allied Forces, which generally meant the United States. The United States occupation policies changed with bewildering rapidity, due both to the changing international environment of those years and policy changes within the United States, often causing confusion for the Japanese authorities. Japan nevertheless achieved "economic independence", which meant bringing its balance of international payments on current account into balance without American aids and the Korean War "special procurement" and generating self-sustained growth. Industrial production recovered by and large to the pre-war level by the end of this period, thanks to the United States aids, the economic stabilization policy and the favorable economic effects of the Korean War. By fiscal year 1951, both real GNP and the industrial production index surpassed the levels recorded in 1934-1936.

The tasks for Japan's industrial policy in this immediate post-war decade, were economic reconstruction and "economic independence" in the above sense.

*Stage 2. The Latter Half of the 1950s – the First Oil Crisis (1973-1974)*

The most striking economic event in this period is the so-called "high

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<sup>1</sup> For a detailed description of Japan's industrial policy after WWII until around 1980, see *Tsusho Sangyo Seisaku-Shi* (The History of Japan's International Trade and Industrial Policies), 17 vols., Tokyo: Tsusho Chosakai, which is now being edited under the direction of Professor Mikio Sumiya. 13 volumes out of the total 17 have already been published as of March 1993. For an overview and economic analysis of Japan's industrial policy, see KOMIYA, OKUNO and SUZUMURA (1988).



growth". Under Prime Minister Hayato Ikeda's national-income-doubling plan announced in 1960, following the relatively high rate of economic growth of the late 1950s, the Japanese economy experienced an average annual growth rate of slightly above 10 percent in terms of national income until the early 1970s, although there were cyclical fluctuations in the growth rate. Another feature of this period was the transition to an open economy of liberalized international trade (import) and "capital" movement (primarily inward direct investment). Under pressure from the United States and European countries that began in the middle of the 1950s and increased in the late 1950s, in 1960 the Japanese government announced a "Basic Plan to Liberalize International Trade and Foreign Exchange Transactions", and subsequently enacted a related legislation according to the plan. As a result the ratio of liberalized to total import trade went up to over 90 percent by the end of 1965. In addition, Japan became an Article 8 member of the International Monetary Fund (IMF) in 1964 and joined the Organization for Economic Cooperation and Development (OECD) the same year. Liberalization of "capital" movement lagged somewhat behind, with the first step taken in 1967 and the fifth in 1973.

During this period, the aim of Japan's industrial policy was to overcome the two billows – liberalization of import trade and liberalization of "capital" flows –, by steadily raising the "level of sophistication" of the nation's industrial structure, which mainly meant the strengthening of "modern", high-productivity sectors, and by enhancing "industrial competitiveness" of Japan's industries in the world market. Thus one might describe this period as "the heyday of Japan's industrial policy". New troublesome developments such as industrial pollution, the first of a series of Japan-U.S. trade disputes (1968-1972), and the issue of industrial location occurred toward the end of this period. These problems represented a new challenge to Japan's industrial policy in the third period.

### *Stage 3. Since the First Oil Crisis to the Present*

The salient features of this period could best be described as Japan's rise to a major and mature economic power and further diversification of the tasks and contents of its industrial policy. The Japanese economy already ranked second in 1968 in GNP in the world after the United States. During this period, Japan's competitiveness in sophisticated manufactures has increased remarkably, and Japan has become the world's leader in production and export of automobiles, electronic products, numerically controlled machine tools and semiconductors. At the same time, Japan has recorded huge



trade surpluses and the corresponding capital outflows. All these are signs of Japan's rise into a major economic power. The improved industrial competitiveness brought trade and economic disputes – trade and economic “frictions”, in Japanese language – with the United States and European countries, and some Japanese industries were forced to control their export.

Tasks for industrial policy have become more and more diversified in this period and included environment pollution, containment of high inflation caused by sharp increases in oil prices, energy conservation, development of alternative energy sources, restructuring of depressed industries, adjustment assistance to adversely affected small and medium enterprises, industrial location policy to ameliorate regional differences in industrial development and income levels, and “trade frictions” as stated above.

## II. THE FIRST STAGE: 1945 – THE FIRST HALF OF THE 1950s

### A. *Continuation and Liquidation of Wartime Economic Controls: 1945-1950*

At the outset of this First Stage, it was of paramount importance to get the nation's economy off its wartime setting as quickly as possible. It was in this period that the basic framework was established for later economic growth of the Japanese economy as a free market economy in which private enterprises compete with each other to survive and prosper. Such framework for fostering private economic activity was laid down by ending inflation and government budget deficits and removing wartime economic controls during this period.

In the years immediately after WWII, however, the strictly regulatory economic system during the wartime was continued until around 1949, since it was quite difficult to pursue economic reforms at once amid the devastation and confusion caused by the defeat. The wartime economy involved a rationing system and price controls for a wide range of commodities to mobilize resources for the military purpose and to sustain people's living standards, who were then very poor. After the defeat economic regulations were for some time strengthened by expanding rationing and price controls to a larger number of commodities.

Measures taken to keep prices of important goods low through “price-gap adjustment subsidies” for price-cost differences and the repayment of wartime debts resulted in huge government deficits and fueled vicious inflation with serious detrimental effects on production. As a result the gap between the official and black market prices widened, forcing the govern-



ment to frequently raise official prices. Hyperinflation also induced a vicious wage-price spiral which only worsened the plight of the people while leaving production stagnant.

During this period, a large part of imports of raw materials were GARIOA-EROA aids granted by the United States. These grants-in-aid and the price-gap adjustment subsidies supported by the huge budget deficits were criticized as "the two legs of bamboo stilts" by Mr. Joseph Dodge, an American banker who visited Japan in February 1949 as the head of a special delegation in charge of designing the basic fiscal and monetary policy lines consistent with Japan's noninflationary growth. The Japanese economy during this period was far from recovery and "economic independence".

The shadows of that wartime economy, however, rapidly disappeared from 1948 through 1949 as a result of the so-called Dodge line, a strict guideline prescribed by Mr. Dodge, which cut off the bamboo legs. At that time, there was an influential opinion in the Japanese government in favor of pursuing mildly inflationary policies by providing subsidies or funds to some industries for raising production to certain levels. However, through the adoption in December 1948 of "the Nine Principles for Economic Stabilization" and because of Mr. Dodge's recommendations, in the following year the Japanese government chose a more drastic approach to economic stabilization: namely, to adopt austere and "ultra-balanced" fiscal policies. Price-gap adjustment subsidies were abolished altogether, financing by the Reconstruction Finance Bank was discontinued, and a fixed, uniform exchange rate of 360 yen to a dollar was adopted.

The effects of this so-called "Dodge line" were remarkable. The money supply, after peaking in January 1949, stabilized in the 1950s, and the wage-price spiral was brought to a halt. These deflationary policies brought severe depression to many industries. But the Dodge line served to bring down inflation and enabled to remove a large number of price controls and other regulations speedily. Thus the Japanese economy succeeded in wrenching itself away from its wartime regime and overcame chaos and disorder induced by the destructive war, and the groundwork was laid for a free market economic system.

#### B. *The "Priority Production Scheme" for Industrial Reconstruction: 1946-1948*

This is a very special industrial policy adopted for a short period under rather extreme conditions immediately after WWII. In 1946, industrial production was severely depressed by a shortage of energy and raw mate-



rials. Strict restrictions on import trade were imposed by the Allied Occupation Forces, and a severe shortage of both fuel and electric power was caused by sluggish coal output. Hyperinflation and an uncertain outlook for the war reparation problem led to a nation-wide production crisis in 1946-1947. To cope with the great difficulties, the government attempted to increase production of coal, electric power and steel under the so-called "Priority Production Scheme". This policy aimed at improving the shortage of coal and steel, which was then thought to be the most serious obstacle to economic recovery, and boosting their production and increasing the supply of electric power, which would spread benefits expanding to other industries.

For this purpose, available resources including imported oil meagerly allowed by the Allied Forces and increases in coal production were allocated to the steel industry on a special priority basis, and then a large part of the increased steel output was allocated to the coal industry to repair coal-producing facilities. The increased output of coal was then used by electric power plants and industries, again on a priority basis. Funds from the Reconstruction Finance Bank were channeled to the steel and coal industries. This was thought to start moving the destructed, war-damaged economy, gradually spreading the expansionary effects to other industries. The effects of the Priority Production Scheme began appearing in late 1947, and production of steel and coal regained half its pre-war level by March 1948. With increased supplies of coal and electric power, industrial production recovered to 70 percent of its pre-war level by December 1948, with signs of improvement seen in the supply of a number of products.

As stated above, "the Priority Production Scheme" as industrial policy was successful in increasing production under the special circumstances prevailing in the Japanese economy immediately after WWII. This is because although a considerable part of Japan's plants and equipment were destructed by the bombing of the Allied Forces, yet probably more than 70% still remained, and the Japanese economy then was stagnant primarily because of the shortage of energy supplies, that is coal and coal-burning electricity.

But the Priority Production Scheme was not an unqualified success, for it was financed by an inflationary method: it relied on funds from the Reconstruction Finance Bank, which raised money by selling Reconstruction Finance Bonds to the Bank of Japan.

### C. *"Industrial Rationalization" Policy: First Half of 1950s*

During this period, the Japanese industries had redundant, but much



old-fashioned stocks of machine tools and equipment with low technological levels, left by the wartime economy. Japan had been isolated from technological advances in the United States and Europe since the late 1930s. As a result, quite a few Japanese industries were unable to compete with imports under the new exchange rate of 360 yen to a dollar. What was called the "industrial rationalization" policy in this period can be interpreted as a series of policies adopted with the aim of removing bottlenecks and raising the technological levels in a number of Japan's "key industries", so as to "quickly bring domestic prices close to international prices".

The core of the "industrial rationalization" policy was the designation of "key industries" eligible for government support such as low-interest financing, preferential tax treatments, and protection from import competition. For designated industries, measures were taken to help promote:

1. "Rationalization" at the individual firm level: modernization of plant and equipment, and improvement of technology.
2. "Rationalization of industrial organization": coordination of the kinds of products among firms, use of common facilities, standardization, mergers, etc.
3. "Rationalization of industrial structures": promotion of heavy – and chemical – industries.

At the same time, measures were taken to develop industry-related infrastructure and to better organize small and medium enterprises.

Under the "industrial rationalization" policy, more than 30 industries in various fields were designated as "key industries", eligible for government support. Among them the steel, coal, marine transportation/shipbuilding, and electric power industries were considered as the four top priority industries, essential to the nation's basic industrial structure.

Next, a second tier of priority industries judged critical to national economic welfare were: chemical fertilizers chosen in order to increase domestic food production, and the synthetic fiber chosen to reduce Japan's dependence on raw cotton and wool imports, to be used for clothing of the people, and at the same time to upgrade the nation's textile industries.

Specific measures taken under the "industrial rationalization" policy are as follows:

1. Low-interest financing by the Japan Development Banks, established in 1951, and by the Export-Import Bank of Japan, established in 1950.
2. Special tax treatments (accelerated depreciation, tax exemptions for important new products, preferential treatment in fixed asset



- (property) tax, exemption of customs tariffs on imported machinery).
3. Subsidies for interest payments, for ships built in Japan and operated by Japanese marine transportation companies.
  4. Preferential import quotas under the general import quota system.
  5. Foreign exchange lending by the Bank of Japan.
  6. Borrowings from the World Bank (International Bank for Reconstruction and Development) through the Japan Development Bank under the government guaranty.

These measures were implemented as follows. Low-interest financing by the Japan Development Bank contributed to plant and equipment investment in "key industries". The coal and electric power industries were the largest recipients of such financing with 40-50 percent of their investment funds coming from the Japan Development Bank. The accelerated depreciation provision on new investment provided for designated types of plant and equipment in designated industries was not tax exemption, but essentially a postponement of tax payments. Thus the direct financial benefits to beneficiary enterprises were limited. But it contributed to increasing the supply of "internal funds" within the firm, especially when the firm was growing rapidly and investing heavily. Also it had some "information effect", since the fact that the government was favoring a particular industry or investment in a particular type of plant and equipment enabled the firms concerned to borrow funds from private banks and other sources more easily than otherwise.

The role of the industrial rationalization was taken over by the "industrial structure" policy in the second period.

#### *D. Need for Economic Independence*

As already noted the term "economic independence" in this period meant achieving international balance-of-payments equilibrium and sustained economic growth without relying on the economic aids from the United States and the "special procurements" by the United States Forces related to the Korean War. But the fixed exchange rate of 360 yen to a dollar introduced by the Dodge line in 1949 proved to be an overvaluation of the yen, as it became clear soon that it was difficult for many industries to be competitive with foreign producers not only in overseas markets but in domestic markets as well, and that for Japan as a whole it was difficult to keep the balance of payments on current account more or less in balance.



Under these circumstances import restrictions since the beginning of WWII or even earlier were continued and a variety of policies to promote export were implemented.

A strict import licensing system was established under the Foreign Exchange and Foreign Trade Control Law and related ordinances, after the resumption of private foreign trade, and foreign exchanges available for imports were rationed. By doing so, the government attempted to maintain the balance of payments, and at the same time protect certain domestic industries with poor international competitiveness. Simultaneously, measures were taken to promote export, such as preferential tax treatments for export earnings, the establishment of the Japan External Trade Organization (JETRO) in 1951 for collecting and disseminating export-related information and holding export exhibitions to develop overseas markets, the establishment of the Export Insurance Scheme in 1950, and that of the Export-Import Bank of Japan in 1950, mentioned earlier. Also, the "industry rationalization policy" as stated above was pursued in order to enhance international competitiveness of Japanese industries.

Balance-of-payments constraints were quite acute during this period and the overvaluation of the yen was apparent, since various policies were necessary to promote export and to restrict import for the balance of payment reason. It would have been better to adopt a more realistic exchange rate rather than to promote export by offering various kinds of "hidden export subsidies" for export (i.e. tax-exemption on export earnings) and to restrict import through explicit or implicit tariffs (an import quota system is largely equivalent to an import tariff). Offering a flat 10-percent export subsidy and imposing a flat 10-percent import duty is largely equivalent to a devaluation of the yen exchange rate by 10 percent<sup>2</sup>.

#### E. *Return to the International Economic Community*

Another important development in this period is Japan's return to the international economic community. After WWII Japan had been wishing earnestly to return to the international economic community, and that was by and large realized toward the end of this period. Immediately after Japan's defeat in WWII, there was a debate in Japan as to the choice between "the domestic developmental policy" advocated by the late Dr.

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<sup>2</sup> In this regard it is apparently contradictory to apply tax exemption measures to export earnings even when quantitative restrictions – the so-called "voluntary export restraints" – are imposed on export on certain items in view of the request for such restrictions by importing countries.



Hiromi Arisawa and Dr. Shigeto Tsuru, on the one hand, and the "priority on international trade" advocated by the late Dr. Ichiro Nakayama. Eventually the latter was more widely accepted than the other.

Before the war, especially in the 1930's, a number of major trading nations discriminated against Japan in world trade, as Japan's exports of manufactures increased rapidly in the condition of world-wide depression. Accordingly, wishing to develop as a peaceful trading nation Japan had long sought to be accepted as a normal member of the international economic community with the most favored nation status as other major trading nations. Since the Allied Occupation period, Japan had tried to sound out the possibility of its entry into GATT through the United States. In the beginning Britain, France, Australia and other countries blocked Japan's move for GATT membership because of Japan's alleged dumping of textile and other manufactures in the 1930s. In 1953 Japan was accepted as a provisional member of GATT, and became a regular member of GATT in 1955. Until 1963-1970, however, a large number of GATT member countries including Britain, France, Australia and most other West European and British Commonwealth countries applied Article 35 of GATT against Japan, and did not establish the normal GATT relationships with Japan.

Japan joined IMF in 1952, and concluded a bilateral commerce and navigation treaty with the United States in 1953. The treaty includes, among others, a clause under which the two countries mutually extend a most favored nation treatment in merchandise trade, and another under which the two countries extend a "national treatment" to each other's firms, that is the same treatment as the treatment given to their own nationals.

It appears that at the time of Japan's entry into the IMF the Japanese government was not sufficiently aware of the trade and foreign exchange liberalization obligations accompanying the entry. Also, both the Japanese and United States governments seem to have not been paying enough attention to the national treatment clause in the Japan-U.S. commercial treaty, since both governments have tried from time to time to treat the other country's firms less favorably than their own nationals in the matter of direct investment, taxation, or mergers and acquisitions.

### III. THE SECOND STAGE: THE SECOND HALF OF THE 1950s – THE FIRST OIL CRISIS

#### A. *Two "Leitmotifs" on Industrial Policy*

Two "Leitmotifs", or two main currents, were intertwined in Japan's



industrial policy in this Second Stage. The first is "the current of free enterprise system and market mechanism", which I would call "the westerly wind". According to the economic thought underlying this "westerly wind" the market mechanism under the global free and multilateral trade, finance and investment system, driven by independent and voluntary actions of private enterprises and individuals, results in a more or less desirable pattern of resource allocation and industrial structure of each country. Basically the government does not need to intervene in industrial and economic affairs except in limited types of situations, nor to determine a country's overall industrial structure. Over the long run the industries which should thrive in each country would thrive. The second current is "the current of industrial structure policy", which I would call the "easterly wind". It aims at establishing a certain pattern of a country's "industrial structure", or at modifying it in a particular direction, such as the "heavy – and chemical – industrialization" or "sophistication of the industrial structure". This is based upon the idea that it is necessary to work out basic principles of a country's industrial structure policy, and to reorganize industries according to such principles under the guidance of the government. I call the first current "the westerly", since it is basically the Anglosaxon (and Northwest European) economic policy thought, underlying OECD, IMF and GATT. The second is called "the easterly", since its sources are (1) the German (or Prussian) economic policy thought of "rationalization" and cartelization of the 1920s and 1930s, and (2) Karl Marx's two sector model of reproduction of a national economy, with the first sector producing producers' and capital goods, corresponding roughly to heavy-industries – and chemical-industries –, and the second producing consumers' goods and all the rest<sup>3</sup>.

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<sup>3</sup> Very few if any of the MITI high officials and experts who were active in the Industrial Structure Council (or the earlier Industrial Structure Research Committee) had been exposed much to the contemporary economics and the liberal economic thought prevalent in Northwest Europe and North America. They were mostly graduates of the Schools of Law. Some of them who were graduates of the Schools of Economics studied economics in the 1920s or 1930s when Japanese economics was under the strong influences of the German Historical School and later of Marxian economics.

Almost all MITI officials at that time and even now would deny – and be unconscious of – the connection between the economic policy thought underlying MITI's industrial structure policy in Stage 2 and the Marxian economics, especially Marx's two-sector reproduction model. But the Soviet Russian and Chinese policy of keeping the prices of energy, iron and steel, some chemicals, and transportation services at artificial, very low levels is quite similar to MITI's early postwar policy. It reminds me of a remark made by John M. Keynes that the economic policy makers' thinking was often much influenced, without their recognizing it, by old economic theories of defunct economists of many decades ago.



Another reason for calling the second current as "the easterly" is that it represented the mainstream of patriotic industrial policy-makers of Japan, a most eastern country "where the sun rises first", earlier than in any other country. The second current is often a dominant economic policy thought in a late-comer, less developed country, such as the 19th century Germany, Japan since the time of the Meiji Restoration (1868) until around 1965, the Soviet Union and China until very recently.

Japan ascended to an Article 8 member of IMF in 1964, became an Article 11 member of GATT in 1963 and joined OECD in 1964. Hence as a full member of IMF, GATT and OECD, in the 1960s Japan was requested to liberalize import trade, foreign exchange controls, and inward foreign direct investment. In 1960 the Japanese government announced, as already stated, the "Basic Plan to Liberalize Import Trade and Foreign Exchange Transactions" and from then on steadily shifted to a free trade (and investment) system. Japan gradually became a major trading nation in the global free trade regime based upon the principles of GATT, IMF and OECD.

Japan around 1960 was a poor, late-comer industrializing country, however, and its industrial policy-makers felt it difficult to quickly accept the status of a full-fledged member of this global trading system by fully committing itself to free market principles. "Industrial structure policy" was thought, therefore, as a supplementary measure to help the Japanese economy industrialize itself more quickly and efficiently. The "industrial structure policy" was designed primarily to allocate resources to certain sectors with high growth potential, to minimize losses in the process of trials and errors inherent in the free market mechanism, and to achieve integration of the Japanese economy into the global free trade regime within a limited time period. For this reason, most measures under the industrial structure policy were implemented as temporary ones with specified time limits. Also they consisted mainly of incentives operating through the price mechanism such as government financing (loans and investments), and special tax treatments. Besides those preferential measures – and after their time limits expired –, private enterprises had to stand on their own feet. The need for such "industrial structure policy" and government interventions embodying it gradually diminished, as most Japanese industries achieved steady growth. In this context, the "easterly wind" and "the westerly wind" may be said to have been complementary to each other, but the former dominated the latter in the beginning of this period and gradually gave in to the latter toward the end.

Not only the "industrial structure policy", which had an ambitious goal



of working out "the basic principles as to how Japan's industrial structure should be", but also "National Economic Plans" and various "national regional plans" drafted by the Economic Planning Agency were originally thought of as some sort of "economic planning" based upon "the easterly wind" policy thought in the beginning of this period. But the "westerly wind" gradually gained its strength and steadily became dominant over the "easterly wind" toward the end of this period as Japan achieved a high and continual rate of economic and industrial growth, and became more and more closely integrated into the global free trading system as a major industrial and trading nation. As a result the industrial structural policy, the national economic plan, and the national regional plan became a sort of projection or forecast, rather than a plan or planning, during the 1960s and 1970s.

#### *B. Industries Given Preferential Treatments under the Industrial Structure Policy*

The leading slogans of "industrial structure policy" of the early 1960s were "heavy- and chemical-industrialization" or "sophistication of the industrial structure". The meaning of these expressions is not quite clear to me since the industrial structure policy at that time did not intend to eliminate industries other than the heavy- and chemical-industries and even called for "sophistication of light industries".

To illustrate the difference between the "westerly" and "easterly" economic policy thoughts, the Research Committee on Industrial Structure, MITI's main advisory body on industrial policy, announced in 1963 the following two criteria as the characteristics of industries which were thought desirable for Japan to expand:

1. The "income elasticity" criterion: industries for the products of which the income elasticity of demand is high.
2. The "productivity increase" criterion: industries expected to have a high rate of increase in productivity<sup>4</sup>.

Thus the argument in favor of the industrial structure policy based upon the "easterly" thought proposed preferential treatments for industries

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<sup>4</sup> In 1970 the Industrial Structure Council, which was established in 1964, succeeding the Research Committee on Industrial Structure proposed the following two additional criteria.

3. The overcrowding and environment criterion: Aimed at reducing dependence on scarce resources such as land, water, environment.
4. The working condition criterion: To cope with labor shortage and the changing emphasis on the desire of the public.



characterized by a high income elasticity and/or a high rate of increase in productivity. But according to the "westerly" thought such industries will naturally grow faster than others as a result of the function of the free enterprise and market mechanism, and there would be no reason for government intervention in favor of them.

Under the industrial structure policy of the early 1960s, the following industries received preferential treatments.

Steel, coal, marine transportation/shipbuilding and electric power, which were the "four priority industries" in the previous period, and synthetic fibers and chemical fertilizers continued to receive preferential treatments. In addition, automobiles, petrochemicals, machinery parts, general machinery, electronic engineering, synthetic rubber, resin, color films, computer and semiconductor were considered as the new growth industries satisfying the two criteria, and received preferential treatments. Oil refining, under the policy of "refining within the country", was also protected.

### C. *The "Temporary Measures Laws" for the Machinery and Electronic Industries*

The machinery industry of Japan during this period tended to have a pyramid or dualistic structure with finished product manufacturers on top and suppliers of raw materials and parts forming a wide bottom. The bottom was comprised mainly of small and medium enterprises which produced "a large number of different types of products (raw materials, machinery parts and subassemblies) each in small quantity" with low productivity and obsolete facilities. The Law on Temporary Measures for the Promotion of Machinery Industry was enacted first in 1956 with a time limit of five years, but later revised and extended several times until 1985, with substantial changes each time. Earlier "industrial rationalization" programs were worked out to help improve technologies of parts suppliers in the machinery industry, "rationalize" or modernize their obsolete facilities and reorganize their industrial organization. Industrial reorganization aimed at improving the situation of "each producer producing a wide variety of products each in small quantity", by promoting cooperation, specialization and mergers among numerous producers in an industry, and by encouraging standardization. Under the programs MITI assisted to organize "rationalization cartels" for standardizing parts and materials, reducing the variety of products, and preventing "excessive competition among small producers", while the Japan Development Bank, the Small Business Finance Public Corporation provided funds for investment.

The purpose of the Law on Temporary Measures for the Promotion of



Electronic Industry, which was initially enacted in 1957 for a seven-year period, but extended several times until 1985 similarly to the machinery industry law, was to modernize the materials, parts and subassemblies sub-sectors of the electronic industry. Japan then lagged far behind the United States and Western Europe in this area. Under the Law, rationalization targets for each type of products were set, subsidies for research and development provided, and tax and financial incentives given to promote modernizing investment on plant and equipment.

The two "temporary measures laws" gave priority on 20 to 30 subsectors each, within the machinery and electronic industries including in the latter case transistor radio, color television, magnetic tape, acoustic equipment, video cassette (or tape) recorder (VCR or VTR), and communication equipment. The two laws were combined in 1971 into a single law, which was finally abolished in 1985.

#### D. *Tools of Industrial Policy*

Tools or instruments of industrial policy which were used during this period were basically the same as those in the previous period, of which the principal ones are described below. In view of the membership of GATT and OECD, however, it became increasingly difficult for Japan to restrict imports and inward foreign direct investment, or give tax incentives on export earnings.

##### Priority in Resource Allocation:

Loans from the Japan Development Bank, Export-Import Bank of Japan and the Small Business Finance Public Corporation; special tax measures such as accelerated depreciation, tax exemptions on "new important products", and subsidy for interest payments for making available low-interest funds to shipping companies, for the purchase of ships and tanks built in Japanese shipyards.

##### 2. Border Measures:

Importer restrictions and tariffs<sup>5</sup> to protect domestic industries<sup>6</sup>, and loans from the Export-Import Bank and preferential tax measures to promote exports (special deduction from export incomes, reserves for exploration of overseas markets, reserves for losses from overseas investment), etc.

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<sup>5</sup> There was an extensive reform of the tariff rates in 1961.

<sup>6</sup> Also, exemption or reduction of tariffs on certain imports was granted to preferred importers: for example, machine tools used by the automobile industry.



3. Industrial Reorganization:

There was an argument within MITI in favor of "a New Industrial Order" in 1961-1964, to the effect that the larger the enterprise, the better the chance of becoming competitive with large foreign enterprises, and that "excessive competition" among firms should be restrained as much as possible. Hence, it was argued, industrial reorganization was urgent. Specific measures to this end included promotion of mergers and acquisitions, formation of "rationalization cartels", industry-wide deliberation to restrict investment on plant and equipment or to divide the spheres of production among firms, and government licensing system for production or investment (oil refining, shipbuilding, etc.).

4. Measures to Promote Sales of Japanese Made Computers:

In 1961 under MITI's leadership the Japan Electronic Computer Corp (JECC) was established by seven domestic (indigenous) computer manufactures to develop the computer industry in its infancy, cope with formidable competition from International Business Machine Corp. (IBM). JECC received loans from the Japan Development Bank, private banks and life insurance companies, and provided leasing funds for Japanese computer manufactures to enable them to offer the same leasing terms on their computers as IBM.

#### *E. Assessment of Industrial Structure Policy*

It is always difficult to assess the usefulness and effectiveness of a country's industrial policy. In the case of the "industrial structure" policy, there are two questions: (1) whether the choice of industries given preferential treatments was appropriate, and (2) whether the preferential measures to promote such industries were really effective. Both of these questions are difficult to answer.

Protective policies in the early (infant) stages of development perhaps helped the development of the machinery, electrical machinery and electronics industries in general, and contributed to the national welfare. In the case of automobiles, when the ban on import of passenger cars enforced under the Allied occupations were lifted and foreign exchanges began to be allocated in 1952, European cars were not only superior in quality but also less expensive than domestic cars even after paying shipping costs and the 40% tariffs. The Japanese automobile manufacturers apparently felt that they faced a crisis. Moreover, the Ministry of Transport, responding to requests



from taxi operating companies, proposed to cut tariffs and liberalize imports. For the automobile industry in the great straits, the protective policy including import quotas and tariffs was highly effective in protecting the "infant" domestic automobile industry, in which Japan proved to have strong comparative advantage later.

The protective policy was effective for developing Japan's color film industry, which challenged Kodak's near-monopoly over the world markets. The synthetic rubber industry became independent soon after starting production with substantial government assistance. The computer and semiconductor industries benefited from import restrictions, government procurement, government subsidies for research and development, and other preferential treatments. Japan's computer industry successfully shattered IBM's monopolistic position in the world markets. It may be noted that Britain, France and West Germany tried to develop respective national computer industries but by and large failed. Until today in Europe there is no companies effectively competing with IBM or Kodak.

On the other hand, a number of industries in Japan could not attain enough "international competitiveness" despite the government's heavily protective policy. The coal industry and marine transportation are such examples. It might be argued that Japan was known to have had no comparative advantage in these industries, yet had to protect these industries, because of the shortage of foreign exchange earnings. But foreign exchanges could have been earned by channeling funds and resources into industries where Japan had comparative advantage rather than into these industries. The oil refining, petrochemicals, and more generally most chemical industries perhaps fall into the same category. Furthermore, the aircraft industry failed to stand on its own feet despite substantial government assistance and protective measures. As these examples indicate, Japan's industrial structure policy did not necessarily succeed everywhere.

Whether the industrial reorganization policy aimed at the economies of scale by reducing the number of independent firms and curbing "excessive competition" was successful, or even whether it was necessary, may be open for discussion. Generally, I would think the policy was not very successful. Economically rational reorganization of an industry, specialization and modernization of productive facilities would take place sooner or later by the working of market forces, without many government interventions.

Moreover, Japanese firms are willing to merge or be acquired only when they suffer serious financial difficulties or foresee business downturns, but otherwise they try hard to remain and thrive on their own. This



tendency may be considered as a source of vitality and dynamism of Japanese industries<sup>7</sup>.

#### F. *Relationship between the "Westerly Wind" and the "Easterly Wind"*

I described the development of the Japanese industry and industrial policy in this period (Stage 2) as a process in which the "westerly wind" gradually overwhelmed the "easterly wind". The "westerly" steadily dominated the "easterly" for several reasons. First, there was economic rationale, and also international constraints under GATT, IMF and OECD. These were the basic reasons for the existence of the "westerly wind". Second, Japanese private enterprises had strong vitality, and the business circle, together with some politicians in the ruling Liberal Democratic Party and the Ministry of Finance officials, did not like the bureaucratic controls. Third, there were a number of corporations which achieved remarkable development and became giant corporations well known all over the world, without much help of industrial policy: such as Sony, Honda, Kyocera, Yamazaki (machine tools), Funac, Epson, Pioneer, etc. In addition, there were corporations which resisted MITI's administrative guidance at one time or another (Idemitsu Kosan, Kawasaki Steel, Sumitomo Metal, etc.). After all, postwar Japan has been "a country of free enterprise".

Finally, it is important to see that the effective "leverage" toward individual firms which the industrial policy authorities had at hand in earlier periods were mostly phased out during this period. The import quota system was steadily eliminated through the process of trade (import) liberalization, and tariff rates were reduced through multilateral negotiations of GATT, while export subsidies (both explicit and implicit ones) were abolished in view of the GATT rules<sup>8</sup>. The government screening system for licensing of foreign technologies was abolished as a result of the liberalization of service trade, since Japan became an Article 8 nation of IMF and joined OECD which instituted the liberalization code for service trade. The government approval system for establishing joint ventures of Japanese and foreign firms was also dismantled because of OECD's liberalization code for

<sup>7</sup> In Japan, most of the mergers of large corporations were one of the following patterns: when the industry or the corporation declined considerably or was expected to see such a trend (shipping, shipbuilding etc.); a declining corporation merged by a thriving one in the same industry or different industry (Nissan and Prince, Kyocera and Yashika etc.); a merger of corporations which were previously a single corporation, or of closely affiliated corporations (Mitsubishi Heavy Industries, Nippon Steel and Mitsui Toatsu Chemicals).

<sup>8</sup> Multilateral talks were held on the terms of export credit because many of the major industrialized countries provided low-interest export credit.



capital movement. Loans from the Japan Development Bank progressively lost their appeal as capital markets developed and financial markets were liberalized.

Under these circumstances, the remaining "leverage" towards individual firms which are readily available for the purpose of "industrial structure policy" was primarily fiscal appropriations, allocation of funds under the fiscal loans and investment program, and special tax measures. But those measures were also constrained by the tight government budget.

#### IV. THE THIRD STAGE: AFTER THE OIL CRISIS UP TO THE PRESENT

##### A. *The General Trend of Industrial Policy*

Japan's industrial policy of this period may be characterized shortly as diversification of the policy issues and "policy deployment for problem solving". In other words, this period saw a shift away from "industrial structure policy" and "industrial reorganization" which were dominant in the previous period, especially in its early part, towards resource allocation through the private enterprise and market mechanism. In this period, Japan's international trade has become more and more based on free trade principles, and Japan's industrial policy has been changing to a problem-solving type one, to deal with those individual issues related to industries which cannot be solved simply by depending on the functions of market mechanisms and private enterprises.

Most of the issues taken up by Japan's industrial policy in this period correspond to what is called the situations of "market failure" in economic theory. The policy shift started gradually from the early 1970s and became clear as Japan has become a major economic power and as the world economy has become more and more integrated.

##### B. *Diversification of Issues and Development of Industrial Policy*

The following are some typical examples of diversified issues and tasks for industrial policy, and major policy developments in Stage 3<sup>9</sup>.

1. *Energy Policy.* – During the first oil crisis (1973-74), the Japanese government implemented emergency measures including administrative guidance

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<sup>9</sup> For a more detailed description of Japan's industrial policy in this period, see KOMIYA and YOKOBORI (1991).



on conservation of oil and electricity which later became law. In addition, since 1975 Japan introduced a series of long-term comprehensive energy conservation programs. The "Law Concerning the Rationalized Use of Energy" was enacted in 1979, setting standards of judgment for economized use of energy and requiring each firm to set up an internal organ to oversee its own energy conservation program. The so-called "Moonlight Project" was started to promote research and development on energy conservation technologies, and special tax incentives and financial subsidies were granted for research, development and investment in energy conservation projects. The "Law Concerning the Promotion of Development and Implementation of Alternative Energy Sources" enacted in 1980 aimed at reducing dependency on oil, and set targets for alternative energy supply sources. The "Sunshine Project" was also started to promote new, alternative energy technologies, and to develop diversified sources of electric power supply such as nuclear, coal and natural gas power generation. The "Petroleum Stockpiling Law", designed to promote stockpiling by both public and private sectors, was enacted in 1975 to stabilize supply of oil. In addition diversification of overseas oil supply sources was sought through encouragement of oil exploration projects.

2. *Adjustment and Assistance to Declining Industries.* — Industries in Japan such as textile, aluminum refining, synthetic fiber, alloy steel, chemical fertilizer, petrochemicals, and shipbuilding lost comparative advantage due to sharp rises in energy prices and wages, declining world demand for their outputs, and/or industrial development in neighboring Asian countries. The Temporary Measures Law for Stabilization of Specific Depressed Industries (for five years from 1978) and the Temporary Measures Law for the Structural Adjustment for Specific Industries (for five years from 1983) were enacted to facilitate the adjustment in those depressed industries. Under the laws firms in the industries reduced their excess capacity, were allowed or encouraged to form cartels to restrict new investment, and received government guarantees for borrowing funds to deal with their excess capacity and to move out of the depressed industries to other more promising areas.

3. *Promotion of Research and Development on Advanced Technology.* — In *The Vision for International Trade and Industrial Policies for the 1980s* published by MITI in 1980, which is generally referred to as "the industrial policy 'vision' for the 1980s", MITI advocated industrial policy toward a "technology-oriented economy", in addition to the orientation toward free, multilateral trade. In line with this new "vision" for the 1980s, MITI



promoted research and development (R&D) of basic technologies for future industries. This was in addition to promotion of "large-scale R&D projects" which began in the 1970s. A well known example of the latter are the technologies for very large-scale integrated circuit (VLSI) project, of which the total cost was thought so large that it could not be borne by individual manufacturers. To tackle the problem, MITI launched an R&D program for VLSI related technologies as a national project and centralized R&D activities on a specialized R&D association. The government granted 29 billion yen in subsidies to this association for four years from 1976. The R&D association conducted research on technologies necessary for the production of VLSI, and contributed substantially to strengthening Japan's semiconductor industry.

4. — *Anti-Pollution Policy.* — The problem of environmental pollution worsened substantially in the latter part of the Second Stage, and became a serious social problem. When the Diet took up the pollution issue in 1970, outcries against pollution and against the industries causing it prevailed all over Japan. As pollution was closely connected with industrial activity anti-pollution measures carried a major weight in industrial policies. MITI and the Environment Agency took various measures to prevent pollution. The Pollution Prevention Corporation was established, R&D to prevent pollution was promoted, and low interest loans or special tax incentives were provided to encourage pollution preventing investment. Recently the protection of global environment and the recycling of resources have become increasingly important issues, and are now considered as among the major tasks to be resolved by the industrial policy authorities.

5. *Industrial Location Policy.* — Since the First Stage up to the present the government has continued its efforts to improve industrial infrastructure such as roads, harbors, industrial land and water supplies. To overcome constraints of limited space, and water and labor force availability in already congested urban areas, and to achieve balanced regional development throughout the country, the Law to Promote Industrial Relocation (1972) and the Law for Accelerating Development of High-Technology Industrial Complexes (1983) were enacted. The policy under the latter was called the "technopolis" development program.

6. *International Trade Policy.* — Unlike the passive and gradual process of liberalization during the previous period, Stage 3 witnessed development of active trade liberalization policy in response to Japan's rising trade surplus



and requests of trade liberalization by foreign governments. First, Japan took initiatives in the Tokyo Round and the Uruguay Round of multilateral trade negotiations under GATT. In the bilateral trade relations, "trade frictions" with the United States and Europe were important trade policy issues, and Japan had often to restrict "voluntarily" its export of certain commodities such as steel, automobiles, color television sets, video-cassette recorders (VCR), and machine tools. Under the positive trade liberalization policy, Japan lowered or abolished tariffs and non-tariff barriers. Furthermore, in a sharp contrast to the policy to promote export, which the Japanese government long pursued in earlier periods since the end of WWII, from the early 1980s it made strenuous efforts to increase import in an attempt to reduce its huge annual trade surpluses. Steps to this end included special tax measures for Japanese firms increasing imports and supports to trade fairs for foreign manufactures and exporters. Finally, with the advancement of Japan's industrial technology, it became increasingly important – and difficult – to strictly comply with the rules of the coordinating committee for multilateral export controls (COCOM).

7. *Policy to Assist Small and Medium Enterprises.* – Against the backdrop of a series of events such as the adoption of the generalized preference scheme (GPS) of lower tariffs on developing countries' products, the sharp rise of the wage levels in Japan, a shift to the floating exchange rate system and the resulting large appreciations of the yen, and the globalization of business activities, Japan's small and medium enterprises often experienced great difficulties in coping with new and rapidly changing economic environments. The industrial policy towards small and medium enterprises in this period included industrial adjustment assistance, "promotion centers" for local industries and some protective measures for small and medium enterprises from the competition of larger enterprises.

8. *Provision of Information and Promotion of Distribution of Information.* – Provision and distribution of information was facilitated by the preparation and announcement of a large number of industrial policy "visions". "The Vision for the 1980s" and "The Vision for the 1990s" are "visions" for Japan's industry as a whole, while there have been many "visions" for a particular industry or for a subsection of an industry. While the reports published by the Industrial Structure Council or similar advisory bodies in earlier periods used to connote some sort of "blueprint" of Japan's industrial structure or a program for a particular industry, the visions in this period



especially in recent years gradually changed their character, and became more and more a sort of "long-term outlook" or "prospect".

#### *D. Changing Role of Industrial Policy*

As already mentioned, the industrial policy authorities lost most of their "leverage" instruments towards individual enterprises, and the "divine power" which had once accompanied MITI's administrative guidance was almost entirely gone in the 1980s. Yet, in reality, there were more roles in the 1980s industrial policy was expected to play actively, than someone unknowledgeable about Japan's industrial policy might think. Specific needs for industrial policy had changed significantly from Stage 2 to Stage 3. Economic and social life has become more complex, the standard of living has risen, technology has advanced rapidly, and environmental destruction on a global scale has become more serious. Under these circumstances, expected roles of industrial policy have become more numerous and complex, and its contents and measures have become more diversified and sophisticated. Some of the examples are:

1. In the past, industrial policy was expected to protect and develop the automobile industry, while at present, it is expected to control exhaustion, set safety standards, restrict export, and assist automobile manufacturers' direct investment overseas (when solicited by host countries).
2. In the past, export promotion was called for, whereas today import promotion is called for, and on the export side there is a need to restrict export of weaponry and of high-technology products under the COCOM regulations.
3. In the past, there were import quotas and the governmental screening and approval system for imports of foreign technologies, while today there is often a need to implement "voluntary export restraint" and proper country-by-country application of the trade insurance scheme.
4. How to help industries attain self-sustaining growth was the major theme of industrial policy in earlier years, but recently it has become an important task for industrial policy to lead some secularly depressed industries towards "euthanasia" without too much pain for people and areas concerned, and to transfer resources from such industries to more promising ones.
5. The primary target of industrial policy towards small and medium enterprises was to rectify the disadvantages for such firms



which were considered as forming the bottom of Japans' "dualistic" economic structure. But now the small and medium-size firms are recognized as a "vital majority" which can prosper progressively and rationally. Thus, emphasis is now being placed more on policies to help improve their managerial capabilities for adjustments to changing economic, technological and labor-market environments.

### *E. Administrative Structure for Industrial Policy and Its Process*

Finally, the process of drafting and implementing industrial policy, which is more or less common in Stages 1, 2 and 3, may be briefly described<sup>10</sup>.

In Japan, an industry or a sector of the national economy falls under the "jurisdiction" (or administrative responsibility) of a particular bureau or division ("supervising bureau" or "supervising division") of a government ministry or agency. A similar system seems to prevail in France and some other European countries, but not countries with Anglosaxon traditions. Although MITI has the administrative responsibility over most industries in the manufacturing sector, some of its subsectors are under the jurisdiction of other ministries: the Ministry of Agriculture, Forestry and Fishery has jurisdiction over food processing and non-alcoholic beverages, the Ministry of Finance over alcoholic beverages, the Ministry of Transport over shipbuilding and rolling stock, and the Ministry of Health and Welfare over pharmaceuticals.

The planning process of industrial policy begins when individual industries or areas have specific "policy issues". From time to time producers, industries concerned, consumers, foreign governments, or international organizations raise "policy issues". When there is an issue, generally the "supervising bureau" or "supervising department" (under the "vertical division") in charge of the industry or products first discusses how to deal with the issue. At the same time, the issue is also referred to a certain office or offices in the "horizontal division", such as Industrial Policy Bureau, Trade Policy Bureau, or Minister's Secretariat, in the case of MITI. However, depending on the issue, there are also other possible cases as follows:

1. At first, some issue (import promotion, policies towards the Uruguay Round, promotion of energy conservation, etc.) is first discussed at one of the "horizontal" divisions or departments, and

<sup>10</sup> For more details, see KOMIYA, OKUNO and SUZUMURA (eds.) (1988) and KOMIYA (1990, esp. Chap. 7, Economic Planning and Industrial Plan).



then passed onto several "vertical" divisions or departments.

2. There are cases where issues in connection with industrial policy need to be dealt with by more than one government ministries or agencies. The final decision is made after a consensus of those concerned is established. The examples are policy on labor shortage, or policy on the promotion of private participation in public activities, etc.
3. There are cases where the "Council" or "Research Committee", which is an advisory organ of ministries composed of members mostly outside the government, plays an important role in initiating the discussion and making decisions on an important policy issue. Sometimes the Council or "Research Committee" is quite powerful, especially when the influence of the politicians is strong, and the ministry or agency in charge may not be able to control its conclusions.

One of the points in the process of planning and implementation of industrial policy is that when industrial or economic issues are raised very often firms in the industry concerned, consumers, or politicians representing the general public request introduction of a new measure or measures of government intervention of one kind or another, rather than the removal of existing measures. Such a request is taken up and examined by the government office having "jurisdiction" over an industry or a sector of the private business. The system of the "supervising bureaus and divisions" took root in the process of historical development of the Japanese economy since the Meiji Restoration, and also through the experience during the wartime controlled economy from the 1930s until the end of WWII.

It should be noted that in the process of planning and implementing industrial policy, interests of producers in the particular industry (or powerful groups within the industry) tend to outweigh other influences. This may be true in most countries. Producers' interests are densely and narrowly concentrated and tend to exert disproportionately strong political pressure, compared with the interests of consumers and users of products which usually are widely but thinly spread and are weak in exerting political pressure. As a general rule, the politically powerful interest group tends to pay little attention to the "national interests", whatever they are. It is more or less the case in Japan. In reality, it is not easy for industrial policy authorities to stand against demands for protection by industries in difficulties and by politicians who represent the interests of industries in their constituencies, and especially those of small producers. In Japan, however, coordination among "horizontally divided" departments and other ministries



or agencies often acts to counterbalance political influences of vested interests of particular industries. As a matter of fact, the strength of producers (industries) interests has declined after peaking out sometime in the 1960s. Also, the pressure from foreign governments or consumer groups<sup>11</sup> often exert considerable influence.

## V. CONCLUSION

Japan's post-war industrial policy has undergone substantial changes in its purpose, content and technique with the change of the times. As a natural consequence, certain lines of the industrial policy, which have lost their significance with the change of the times, end their role and cease to exist, while a new policy line comes up to cater to the needs of the time. Although there are various views in assessing industrial policy, in my view the miraculous recovery and high growth during Stages 1 and 2 are mainly attributable to economic rationality of the "westerly wind", Japan's return to the international economic community, and vitality of private enterprises, while Japan's industrial policy was important in setting up economic and social infrastructures for the Japanese industries and in protecting a number of promising "infant" industries. The "leverage" and the "divine power" of "administrative guidance" exercised by industrial policy authorities in Stage 1 and the earlier part of Stage 2 were by and large lost in later periods, but this did not mean the end of Japan's industrial policy.

The "golden age" of Japan's industrial policy, when MITI was active in designing Japan's "industrial structure" and trying to allocate the funds and other resources among industries so as to enhance Japan's "national interests", was over long ago. It is now the age of industrial development led by private enterprise, free trade and market mechanism, under the dominance of the "westerly wind".

Yet, Japan's industrial policy is still expected to play an important role in the Japanese economy. It copes with more diversified and sophisticated policy issues, arising in a mature, industrialized economy, increasingly integrated with other economies of the world. Japan's industrial policy makers will continue to enjoy high prestige in the Japanese society as experts in these complex industrial issues.

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<sup>11</sup> For example, consumers' pressure in resisting a rise in electricity fare or kerosene prices has considerable influence.



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## TRE STADI DELLA POLITICA INDUSTRIALE GIAPPONESE DOPO LA SECONDA GUERRA MONDIALE

Dalla fine della seconda guerra mondiale ad oggi la politica industriale giapponese è molto cambiata nei suoi compiti, contenuti e strumenti adattandosi alle differenti necessità del momento.

Subito dopo la guerra (stadio I) il compito principale della politica industriale è stato quello di fornire all'economia giapponese una base per una economia di libero mercato. I controlli economici bellici furono aboliti e furono perseguiti programmi di razionalizzazione industriale. Per affrontare le difficoltà della bilancia dei pagamenti si presero varie misure per promuovere le esportazioni e limitare le importazioni.

Nel periodo di "intensa crescita" (stadio II, 1955-1973) prevalsero due correnti di politica industriale: quella della libera impresa e del meccanismo del mercato (il vento dell'Ovest) e quella della politica della "struttura industriale" (il vento dell'Est). Quest'ultima intendeva creare una auspicabile struttura industriale in Giappone attraverso trattamenti preferenziali per le industrie pesanti e chimiche. Verso la fine di questo periodo, il vento dell'Ovest gradualmente prevalse sul vento dell'Est.

Dopo la prima crisi petrolifera (1973-74) sino ad oggi (stadio III), il Giappone è diventato una potenza industriale ed economica di primissimo piano e la sua economia si è integrata sempre di più col resto del mondo. La maggior parte dei temi della politica industriale giapponese in questo periodo ha rispecchiato situazioni di ciò che in economia si chiamano "fallimenti del mercato" e furono adottate misure allo scopo di risolvere i problemi di queste situazioni.







## AN EMPIRICAL OVERVIEW OF THE JAPANESE MAIN BANK RELATIONSHIP IN RELATION TO FIRM SIZE (Based on the Results of a Survey Performed in 1990)

by  
TOSHIHIRO HORIUCHI \*

### I. INTRODUCTION

The aim of this study was to make a micro empirical investigation of the Japanese main bank relationship based on the data of a survey conducted by the Japan Center for Economic Research in 1990. Responses came not only from large corporations but also from small and medium-sized (hereafter S-M) firms. The total number of firms surveyed was 457<sup>1</sup>. A data set of this kind, collected from various sized firms, has never been obtained before. Hence this study involves an innovation in the empirical analysis of the main bank relationship.

The survey asked firms to name their main bank, or at most three banks if necessary, from a list of banks. The main bank of a firm is defined

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Completely restructured and reorganized version of the paper presented at the Fourth Italy-Japan Workshop "Italian and Japanese Economies in the '80s: A Comparative View", held in September 1991 at the University of Siena.

<sup>1</sup> We sent the questionnaire to a total of 1,271 firms on October 1990 with the help of the Japan Center for Economic Research (JCER). The details of the survey are shown in the volume edited by HORIUCHI T. (1991) and in the article by HORIUCHI-MURAKAMI (1991) published therein. The Sample included six subgroups: 1. All electrical corporations listed on the Tokyo Stock Exchange (Number = 118); 2. Other randomly sampled listed corporations (Number = 304); 3. All corporations listed on the Over-The-Counter Market (Number = 364); 4. Randomly sampled unlisted firms from the volume edited by Nippon Keizai Shinbun (Number = 301); 5. Randomly sampled firms investing overseas excluding the above (Number = 71); 6. All JCER member firms excluding the above (Number = 113). There was a total of 457 responders, 273 of which were from the manufacturing sector, the rest were from the non-manufacturing sector.



as the firm's most important bank<sup>2</sup>. In addition, it asked firms to select a set of core banks, including their main bank, with which they have as important a relationship as with their main bank. This is the second innovative point here, namely the empirical analysis of recent trends in main bank relationships. The responding firms were divided into four categories according to number of employees (less than 300 employees) and status (listed or unlisted), and various qualitative and quantitative comparisons of the main bank relationship performed. Differences were revealed in the firms' attitudes to their main bank or core banks. The third innovation consists in considering the various aspects from the view point of the firms themselves.

The research of previous studies, except for a few such as those by Horiuchi (1988) has been tacitly based on large corporations. This is mainly due to the fact that only large banks such as city banks could have played the role of the main bank and that their clients have mostly been large corporations<sup>3</sup>. However, large banks started to strategically increase their lending to S-M firms in the period of financial liberalization. Their intention seems to have been to maintain their total lending growth. Relatively speaking, then, large corporations have decreased their borrowing from banks and have replaced it with capital market finance during this period. Thus large corporations have been adjusting their main bank relationship. This relationship, developed under the post-war regulation policies and Keiretsu relationships<sup>4</sup>, has begun incorporating more competitive elements than in the previous period. On the other hand, S-M firms have benefited from expanded availability of funds – a point which will be analyzed later on in this paper. Accordingly, we may ask whether or not there are any significant differences in the main bank relationship among firms of both sizes.

In order to answer this question, the paper focuses on the firms' attitudes toward their main bank in the face of competition between banks. It investigates the mechanism enabling firms to get more competitive effects under the main bank relationship. It also analyzes mechanisms mitigating asymmetry of information with banks involved in the relationship. The school known as the New Theory of Finance has paid close attention to the issue of information asymmetry and suggested that it can be mitigated by a

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<sup>2</sup> See footnote 8 for comments on the definition. The paper focuses on a realistic analysis rather than a theoretical one.

<sup>3</sup> City banks are the largest commercial banks. They also have significant stockholdings in large corporations.

<sup>4</sup> See OKUMURA (1991) for the *keiretsu* consideration and a historical discussion of the main bank relationship.



long-term relationship between borrowers and lenders<sup>5</sup>. The main bank relationship is considered to be typical. However, without the active behavior of firms, long-term relationships would lose many competitive effects. Indeed, a flexible main bank relationship enables the balancing of competitive and long-term effects. This paper explains how the main bank relationship is an illustration of the so-called "flexible rigidity" in the management of Japanese firms<sup>6</sup>.

The paper is composed of five sections. Sections II to IV investigate various elements of the main bank relationship. Section V concludes the paper. Section II deals with the composition of the main bank set and other banks sets such as the set of core banks. Section III discusses the flexibility of the main bank relationship. Section IV analyzes the main bank policy of firms and exemplifies the role of the main bank as a tacit organizer of de-facto corporate loan syndications, particularly for large corporations<sup>7</sup>.

## II. OVERVIEW OF THE SIZE COMPARISON

This section gives a comparative analysis of the main bank relationship according to firm size in terms of member composition of the main bank set and the main bank dependence, first with an emphasis on S-M firms, and then on large corporations.

### A. *What is the Main Bank of a Small Firm?*

The result of the questionnaire sent to 1,271 firms shows that S-M firms and large corporations have considerably different main bank relationships except for two similarities: both usually have only one main bank and the relationship becomes long-term. The following is an overview of the main bank relationship according to firm size, assuming four categories:

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<sup>5</sup> There are many theoretical papers on the desirability of the long-term relationship between both parties: LELAND-PYLE (1977), CAMPBELL-KRACKAW (1980), DIAMOND (1984) (pioneering studies) and von THADDEN (1990). HAUBRICH (1989) and SHARPE (1990) discuss new aspects of the long-term relationship. In particular, Sharpe mentions the negative effects of potential monopoly power of the banks. For an international comparison, see MAYER (1988).

<sup>6</sup> See DORE (1986) on the idea of flexible rigidity.

<sup>7</sup> See HORIUCHI (1993) (the paper presented at The Japanese Main Bank Conference organized by the World Bank in 1992 and 1993) for the interaction between loan syndications and the main bank relationship.



- F1: 75 unlisted firms with less than 300 employees,  
 F2: 34 unlisted firms with 300 employees or more,  
 F3: 57 listed firms with less than 300 employees, and  
 F4: 287 listed firms with 300 employees or more.

Dividing the total number of responding firms into four categories, Table 1 shows i) the number of main banks, ii) the member composition of the set of main banks, and iii) the degree of main bank dependence with respect to several finance transactions. The Table shown in the Appendix summarizes size comparisons of such characteristics as rate of net worth, growth rate, or profit rate, etc.

i) *The number of main banks.* – The survey asked firms to name at most three as their main bank<sup>8</sup>. About 70 percent of firms had one main bank in each category, and the others two or three main banks. Although firm size differed tremendously, there was no significant difference in the average number of main banks among the four categories. The average number of main banks varied from 1.2 for F1 to 1.4 for F4. However, the total number of banks differed widely from 5.7 for F1 to 20.8 for F4. Nevertheless, even the difference is less than that of firm size itself<sup>9</sup>. In conclusion, despite differences in size, the majority of Japanese firms have a main bank relationship with only one bank.

ii) *Who can become the main bank?* – Although the number of main banks per firm was similar, the details of member composition of the main bank set, i.e., the types of banks with which each firm has its main bank relationship, differed greatly in relation to firm size as shown in Table 1. The smaller the firm, the greater the tendency for it to have a main bank relationship with a small bank such as a regional bank or credit association<sup>10</sup>. The larger the firm, the more likely it is to have a main bank

<sup>8</sup> As mentioned in relation to the definition of the main bank, the survey did not give its own operational definition. According to HORIUCHI-PACKER-FUKUDA (1988) and SHEARD (1989), for example, the main bank is defined rather more implicitly than explicitly. Their definition is similar to that of the survey: the main bank is what a firm considers the most important bank for itself. Theoretically speaking, the main bank is that to which a firm can assign the monitoring role, extending through ex-ante, interim, and ex-post phases.

<sup>9</sup> This result shows the existence of economies of scale in bank trading.

<sup>10</sup> Regional banks are smaller commercial banks than city banks and are located mainly in rural prefectures. Compared with city banks, regional banks have considerable monopolistic power in a particular region. Credit associations are financial institutions which have restricted their business to the smaller firm market or to a specific regional market. Their entries are concentrated in a few prefectures such as Kyoto and Aichi.



TABLE 1

OVERVIEW OF THE MAIN BANK RELATIONSHIP IN RELATION TO  
FIRM SIZE<sup>1</sup>

	F1 (75)			F2 (34)			F3 (57)			F4 (287)		
I. Number of banks in total (standard deviation)												
	5.7 (3.9)			19.6 (18.7)			9.7 (6.3)			20.8 (21.8)		
II. Number of main banks (standard deviation)												
	1.2 (0.5)			1.4 (0.6)			1.3 (0.6)			1.4 (0.7)		
III. Member composition of main bank set <sup>2</sup> .												
	a	b	c	a	b	c	a	b	c	a	b	c
No. of firms	58	9	3	23	8	2	41	11	4	207	41	28
LCB	1	0	1	0	2	2	2	4	1	10	21	25
TB	0	1	1	1	1	1	1	2	2	1	9	12
CB	25	5	3	18	6	2	31	11	4	179	37	28
Others	32	12	4	4	7	1	7	5	5	17	15	19
IV. Degree of main bank dependence (standard deviation) and its stable trend (%) <sup>3</sup> .												
LTBR	49.3 (28.8)			36.9 (25.3)			50.0 (28.6)			30.3 (24.0)		
FIBR	51.5 (26.9)			44.4 (26.2)			53.0 (28.9)			32.0 (25.3)		
STBR	64.1 (24.7)			46.1 (25.0)			52.9 (29.7)			39.8 (22.9)		
LDEP	60.4 (27.0)			48.8 (26.4)			50.0 (28.3)			44.3 (24.4)		
FDEP	54.0 (28.4)			42.4 (26.4)			52.2 (27.1)			34.7 (25.5)		
FEX	50.0 (37.4)			45.3 (33.6)			55.7 (35.2)			47.5 (28.1)		

## NOTES:

1. The number of firms is shown in parentheses in the top row.

2. The firms are divided into three groups according to the number of their main banks: a) one; b) two, c) three. The figures show the number of banks having a main bank relationship with the firms in each group: LCBs (long-term credit banks), TBs (trust banks), CBs (city banks), and Others (such as regional banks, second regional banks, and credit associations).

3. LTBR = long-term borrowing, FIBR = fixed investment borrowing, STBR = short-term borrowing, LDEP = liquidity deposit, FDEP = fixed deposit, and FEX = foreign exchange transaction.



relationship with a city bank. Moreover, city banks have a main bank relationship with half the firms in the F1 group. In contrast with this preponderance of city banks as the main bank of S-M firms, other large banks such as long-term credit banks register less not only in F1 but also in the F2 and F3 groups. These other large banks can only become the main bank of large corporations in the F4 group.

For firms with two or three main banks, in most cases one of them is a city bank. The others are either regional or mutual banks for F1 and F2, and long-term credit banks or trust banks for F3 and F4<sup>11</sup>. For F4 firms with two or three main banks that account for about a quarter of this group, city banks and long-term credit banks have approximately the same share as the main bank.

Comparison of main bank composition in relation to firm size bears out the segmentation of the loan market according to firm size in Japan: large banks with large corporations and S-M firms with small banks. However, it also highlights the structural changes accompanying financial liberalization. Generally speaking, more S-M firms can now incorporate a city bank into their main bank set.

iii) *Main bank dependence.* – Size effects reveal themselves again in the degree of main bank dependence<sup>12</sup>. Table 1 covers six types of banking transactions: long-term borrowing, long-term fixed investment borrowing, short-term borrowing, liquid deposit, fixed-term deposit, and foreign exchange transactions. The smaller the firm size, the more the firm depends on the main bank in each category of financial transaction (except for foreign exchange transactions). The average degree of main bank dependence varies from 50 to 60% in F1, and from 30 to 40% in F4. The degree of main bank dependence of the small firm is much higher than for large corporations. With respect to the degree of main bank dependence F2 and F3 are seen to be intermediate between F1 and F4.

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<sup>11</sup> Mutual banks, now known as second regional banks, are commercial banks of similar size to regional banks, but with less monopolistic power. Long-term credit banks and trust banks have similar amounts of financial business, and specialize in long-term credit. City banks have now also expanded their business into long-term credit.

<sup>12</sup> The questionnaire asks firms to choose one of five dependence ranges to facilitate processing of the answers: i) less than 20%, ii) 20 to 40%, iii) 40 to 60%, iv) 60 to 80%, v) more than 80%. The dependence is approximated to the middle figure in each range. Although the quality of dependence is not investigated in detail, it can vary in relation to relationship history or transaction technology development, and can also interact between various transactions.



### B. *Large Corporations in F4*

In Table 2 we examine large corporations in detail. Comparing the characteristics of firms in terms of the number of main banks (i.e., one, two, or three main banks), there is no statistically significant difference in their total number of employees nor is there any significant difference in the average rate of current profit rate to total assets or borrowing ratio.

Table 2 also compares the average characteristics of various sub-categories of firms according to the number of banks in each bank set, namely the sets of main banks, core banks, clearance banks, and banks in total. Obviously the last set is the largest and includes the other sets. The set of main banks is the smallest. The sets of core banks and clearance banks include the set of main banks and are included in the set of banks in total. Core banks are defined in the survey as banks with which firms have a relationship as important as, or similar to, the main bank relationship. Clearance banks are those operating daily cash transactions for a firm, in many cases together with core banks, and thus to a certain extent the function of both banks overlaps. The average number of banks in total per corporation reaches twenty-one and differs significantly in relation to firm size. As shown above, the average number of main banks is only 1.4 and differs less significantly. The average for core banks is 6.4, and differs significantly according to the size of firms. Thus, the larger the firm, the more core banks it needs.

Most of the 276 firms that responded were able to name their main bank even without the operational definition in the survey. However, as will be discussed later, irrespective of an operational definition, the function of the main bank relationship converges from the standpoint of banks and firms alike, because about 90 percent of firms have the main bank relationship with a city bank and because banks compete for firms' business. An indication of this convergence appears – given the competition among banks – in the diffusion of a main bank policy into most firms in order to maintain the ranking of their banks. This point will be further discussed in Section IV.

Among the 207 large corporations with only one main bank, 179 have their main bank relationship with a city bank, as shown in Table 2. Other banks such as long term credit banks or trust banks register considerably less. Trust banks are a typical case. Among 207 corporations with only one main bank, only one trust bank appears as the main bank. Even in the case of all 276 firms with either one, two, or three main banks, city banks are the main bank of about 90 percent of firms. Among the 28 firms with three



TABLE 2

DIFFERENCE TEST RESULTS OF AVERAGE FIRM CHARACTERISTICS  
FOR DIFFERENT BANK SETS

	No. of firms	Bank category			Firm characteristics (F-ratio) <sup>1</sup>		
		LCB	TB	CB	Employee size <sup>2</sup>	Profit ratio (%)	Borrowing ratio (%)
I. Set of main banks							
a) Size 1	207	10	1	179	7.4	6.2	16.7
b) Size 2	41	21	9	37	7.5	5.1	18.3
c) Size 3	28	25	12	28	7.7 (1.04)	4.6 (2.07)	17.2 (0.198)
II. Set of core banks (Average number of core banks = 6.4)							
Above av.	100	117	168	520	7.8	5.5	18.4
Below av.	187	102	93	441	7.2 (15.4)	6.1 (0.897)	15.9 (1.76)
III. Set of clearance banks (Average number of clearance banks = 7.9)							
Above av.	95	N.A.	N.A.	N.A.	7.9	5.0	16.8
Below av.	190	N.A.	N.A.	N.A.	7.2 (29.5)	6.3 (5.84)	16.9 (0.001)
IV. Set of banks in total (Average number of banks in total = 20.8)							
Above av.	83	N.A.	N.A.	N.A.	8.4	4.8	23.2
Below av.	201	N.A.	N.A.	N.A.	7.0 (106.4)	6.3 (6.69)	14.3 (22.0)

## NOTES

1. In parentheses F-ratio test statistics of fully factorial analysis of variance of characteristic variables between two or three categories of firms in relation to bank type.

2. The figures in the Employees column are the natural logarithm of total employees. Those in the Profit ratio column are the percentage ratio of current profit before tax to total assets. Those in the Borrowing ratio column are the percentage ratio of total borrowing to total assets.



main banks, each has a main bank relationship with a city bank. In these firms one bank is called "the main bank" and the others "the long-term credit main bank (*choki mein*)" or "the sub main bank (*beikou mein*)". The main bank is generally one of the city banks and the *choki mein* bank either a long-term credit bank or a trust bank.

In short, as far as the main bank relationship of large corporations in Japan is concerned, city banks have a total majority share of about 90%<sup>13</sup>. Also, comparing the number of core banks, city banks were found to have a majority share. In 100 firms having more than the average of 6.4 core banks, city banks accounted for 5.2. The share of city banks in the average of 6.4 core banks per firm was 3.3.

At this point it may be useful to ask the difference between city banks and other large banks such as long-term credit banks. Primarily, it seems that through their wide branch network they can adjust more flexibly to the diversified financial needs of large corporations. This applies both domestically and internationally. Also, through long-run syndication management experience covering both long-term and short-term lendings, and because of the fact that they have significant shockholdings in large corporations, city banks gain a competitive edge. Because of the higher potential management capability of city banks, firms can implicitly assign their most important main bank or core bank role to city banks. Thus city banks, in their role as main bank or core bank, accumulate firm-specific information through this implicit and long-run monitoring relationship. This information is diffused among core banks because, as analyzed in Section IV, through their main bank policy, firms pay close attention to core banks as a whole<sup>14</sup>.

### III. FLEXIBILITY OF THE LONG-TERM RELATIONSHIP

This section is concerned with the degree of flexibility of the main bank relationship in terms of changes in the number of banks and the main bank dependence of firms.

i) *Changes in the number of banks.* — As far as adjustment flexibility in

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<sup>13</sup> Some of the large city banks have more than ten percent shares in our 276 firms: Dai-ichi Kangyo Bank in 50 firms, Fuji Bank in 38, Sakura Bank in 35, Mitsubishi Bank in 32, Sumitomo Bank in 29, etc. An exceptional case is the Industrial Bank of Japan (the largest in the long-term credit banks): it has main bank relationships with 43 firms. However, 32 of these are firms with two main banks.

<sup>14</sup> This is consistent with the view of firms regarding the future of the main bank system, the result of which will be discussed in Section IV.



the number of banks with which firms have a financial relationship is concerned, S-M firms are less flexible than large corporations. About 65% of firms in F1 did not change the total number of their bank set in the 5 years preceding the survey (1985-1990), compared with less than 50% in F4. This comparative stability of S-M firms appears not only in the set of banks in total but also in the set of clearance banks: 79.7% and 64.2%.

Comparing the trend of firm size in relation to set of banks in Table 3 we see that, with only one exception, the majority of firms have relations with a constant number of banks. The exceptional case appears in the comparison of the number of banks in total in F3: about half of the firms have increased the number of banks in the set of banks in total. F3 includes many firms recently listed on the *over the-counter* market. This rapid increase is mainly due to drastic changes into new forms of financial management organization – a phenomenon that probably accompanies new banks in their role not only as major lenders but also as major stockholders. However, as far as the average trend is concerned, firms tend to retain a stable number of banks, particularly with clearance banks, namely, core banks. In particular, about 80% of firms in F1 have not changed the number of clearance banks over the last five years.

Though the majority have a stable bank membership diversification, the data of Table 3 does not contradict the fact that a considerable number of firms have adjusted their number of banks. For example, about one quarter of large corporations reduced the banks in their set of clearance banks in the period of financial liberalization. This type of flexibility in member composition is more evident in large corporations than S-M firms, and tacitly implies increased competition among banks during this period. Of course, the effects of competition have spread over firms of various sizes. Indeed, as illustrated above, a considerable number of firms in F3 have increased their number of banks.

ii) *Changes in main bank dependence.* – Large corporations have a relatively higher degree of flexibility in the number of banks, but less flexibility in the degree of main bank dependence than S-M firms. For example, with the exception of deposit transactions, S-M firms in F1 have adjusted their dependence more flexibly than large corporations. Table 3 shows main bank dependence in relation to firm size and type of financial transaction. The figures in Table 3 are the percentage distribution of firms having one of three different trends in the degree of main bank dependence: that is to say an increasing, a constant, or a decreasing trend. In Table 3,



TABLE 3

ADJUSTMENT OF THE NUMBER OF BANKS  
AND THE MAIN BANK DEPENDENCE BETWEEN 1985 AND 1990

	F1 (75)	F2 (34)	F3 (57)	F4 (287)
I. Changes in the number of banks				
A. Number of banks in total				
Increasing	16.2	32.4	49.1	24.9
Constant	64.9	50.0	36.8	49.1
Decreasing	18.9	17.7	14.0	26.0
B. Number of clearance banks				
Increasing	8.1	9.1	27.3	9.5
Constant	79.7	81.8	63.6	64.2
Decreasing	12.2	9.1	9.1	26.3
III. Changes in the main bank dependence				
A. Long-term borrowing				
Increasing	28.3	26.9	28.9	18.5
Constant	48.3	53.9	46.2	57.9
Decreasing	23.3	19.2	25.0	23.6
B. Long-term fixed investment borrowing				
Increasing	20.0	17.9	20.0	10.5
Constant	58.2	67.9	52.0	63.6
Decreasing	21.8	14.3	28.0	25.9
C. Short-term borrowing				
Increasing	32.4	25.8	26.8	23.0
Constant	60.3	67.7	60.7	60.0
Decreasing	7.4	6.5	12.5	17.0
D. Liquid deposit				
Increasing	22.2	11.8	28.6	18.3
Constant	70.8	70.6	60.7	60.4
Decreasing	6.9	17.7	10.7	21.3
E. Fixed-term deposit				
Increasing	31.4	17.9	30.9	12.2
Constant	52.9	60.7	54.6	55.5
Decreasing	15.7	21.4	14.6	32.3
F. Foreign exchange transactions				
Increasing	22.2	0.0	27.0	19.5
Constant	70.4	81.3	67.6	75.0
Decreasing	7.4	18.8	5.4	5.5



although most firms show a constant trend in every category, the share varies in each category and for each transaction.

As far as the difference in trade is concerned, firms tend to reveal more stable dependency in foreign exchange transactions irrespective of firm size. As has already been shown in Table 1, in such transactions, firms generally have higher dependence than in others. This is an example of higher dependence accompanying a more stable relationship. On the other hand, in the case of long-term borrowing transactions, firms show less stability than for foreign exchange transactions. This is an example of lower dependence accompanying increased flexibility. The existence of both possibilities implies that firms have a strong desire to adjust their main bank dependence in terms of overall dependence<sup>15</sup>.

iii) *Large corporations.* – Table 3 reveals that in all financial transactions, about sixty percent of large corporations have maintained the share of their main bank relatively stable. Borrowing transactions are so typical that they follow implicitly de-facto stable loan syndications<sup>16</sup>. On the other hand, about one third of the corporations have changed the relative shares of the set of their main banks. The existence of both trends implies that large corporations not only seek stable syndications but also search for preferential borrowing conditions both within and beyond syndication members. The mechanism behind this behavior will be discussed in Section IV. However, it is worth noting that long-term relationships with the main bank do not generally lead to lack of competition among banks.

The figures in Table 4 show an example of such competition. This table analyzes the interaction between markets of long-term and short-term lending. The number of firms keeping their main bank dependence in both transactions is less than half the total number of 230 corporations. A main bank keeping stable shares in long-term lending experienced competitive pressure in short-term lending. Also, a main bank with stable shares in short-term lending experienced competition in long-term lending.

In conclusion, large banks such as city banks have competed with each other in the corporate financial markets even though they belong to the core bank or main bank set. This competitive pressure strongly motivates these banks to converge their conditions of de-facto loan syndications. Thus, about half of all large corporations could continue to give the set of main

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<sup>15</sup> Theoretically speaking, this discussion is related to the simultaneous determination of main bank dependence and the adjustment cost of the relationship.

<sup>16</sup> See HORIUCHI (1993) (World Bank Conference) for discussion of the syndication loan of large corporations managed by a main bank.



TABLE 4

INTERACTION BETWEEN MARKETS OF LONG-TERM (ROW) AND  
SHORT-TERM (COLUMN) LENDINGS:  
DISTRIBUTION OF LARGE CORPORATIONS WITH DIFFERENT RELATIVE  
SHARE TRENDS OF THE MAIN BANK DEPENDENCE (NUMBER OF FIRMS)

Long-term Short-term	Increasing	Constant	Decreasing	Total
Increasing	18	16	8	42
Constant	14	106	14	134
Decreasing	19	15	20	54
Total	51	137	42	230

banks or core banks relatively stable shares, despite the lack of many competitive effects<sup>17</sup>. In the next section, we will ask how such effects can arise.

#### IV. MAIN BANK RELATIONSHIP POLICY

In this section we consider various qualitative comparisons in relation to firm size and analyze the mechanism whereby firms manage to display flexibility in the midst of rigidity.

##### A. Policy Motivation

i) *Diversification*. — As previously observed, most firms have been seen to maintain a stable main bank relationship, although they may have adjusted it to some extent. Needless to say, this potential for flexibility assumes a multiple relationship with many banks. How do firms manage to maintain both a stable main bank relationship and a multiple bank relationship? What are the reasons or motives behind both aspects of stable and multiple relationships? Do they differ in relation to firm size or not?

<sup>17</sup> Thus banks having a long-run relationship with firms will gain monopolistic power over their finance. As revealed in the survey, this possibility may be worsened by any cooperation between banks without the active response of firms. See SHARPE (1990). Also see the discussion in Section IV.



TABLE 5

MOTIVATION FOR MULTIPLE BANK RELATIONSHIPS  
AND STABLE RELATIONSHIPS WITH CORE BANKS

	F1	F2	F3	F4
A. Diversification motives (at most three)				
1. Large size of financial transaction	24.2	41.2	23.2	41.5
2. Enhanced competition	68.2	61.8	71.4	66.5
3. Information source	59.1	61.8	62.5	73.9
4. Avoidance of bank interference	20.0	23.5	28.6	31.0
5. Availability of funds	56.1	58.8	41.1	47.2
6. Merger history	3.0	0.0	0.0	1.0
7. Enhanced creditworthiness	21.2	23.5	28.6	14.1
Total number of responses	66	34	56	284
Number of non responses	9	0	1	3
B. Stability motives (at most three)				
1. Reliability	70.0	87.0	63.6	69.0
2. Information source	10.0	22.6	15.9	27.6
3. Large size of financial transactions	7.1	12.9	4.5	6.0
4. Wide network	11.4	16.1	6.8	11.6
5. Major stockholders	10.0	3.2	45.5	58.2
6. Local banks	51.4	32.3	20.5	14.2
7. Long customer history	68.6	71.0	79.5	64.9
8. High ability of banks	2.9	3.0	0.0	2.6
9. Advanced knowhow	7.1	16.1	6.8	11.9
10. Belonging to the same business group	8.6	12.9	22.7	14.2
11. Others	10.0	3.2	2.3	0.7
Total number of responses	70	31	44	268

Table 5 summarizes the size-related factors contributing to a stable relationship or multiple relationships. The figures in the upper part of the table embody the answers to a question about multiple relationships in which firms were asked to choose from among seven reasons (with at most three factors for their multiple bank relationships). The figures in the lower part embody the answers to another question probing their stable relationship in a similar way.

Though results concerning multiple relationships vary little in relation to firm size, more than 60% of firms in every category responded to the second choice by emphasizing the competitive effect of bank relationship diversification. Examining the differences in detail, it appears that large corporations make it a top priority to maximize sources of information. In addition, they regard enhanced competition or fund source diversification as



an additional motive. Unlike large corporations, S-M firms seek to enhance their reputation for creditworthiness via multiple bank relationships. However, as far as the overview of diversification factors is concerned, we can conclude that there is no significant difference correlated with firm size.

This similar distribution of diversification motives, however, has been previously shown to accompany some interesting flexibility differences in terms of changing degrees of main bank dependence or membership in the set of banks. Also, as will be shown later, the survey highlights an important qualitative difference in main bank relationship policy. However, before proceeding to the analysis, we may briefly examine the differences in motivation leading firms to maintain a stable main bank relationship.

ii) *Stability*. — In relation to motivation, the lower part of Table 5 shows an interesting size-related difference. Although, as discussed previously, the majority of firms in every category maintains stable relationships with core banks, as shown in Table 5, they have significantly different motives.

Table 5 compares the motives of responding firms that did not in any way adjust the number of the set of core banks in the five year period before the survey. In every category except F3, more than 90% of firms responded to the question. The exceptional case of a 77% response rate in F3 is mainly due to the fact that many of the firms surveyed were recently listed on the over-the-counter market and have begun to have new partners as their core banks.

One of the main reasons for the stable relationships of large corporations is that these banks have been one of their major shareholders. However this motive is completely insignificant for the S-M firms in F1 and F2. S-M firms cannot expect any effect from bank stockholding because they have few bank stockholders. For these firms, the top priority is the reliability of core banks. The second is that such banks should operate in the same geographical area as the firms themselves.

This emphasis on the location of banks is extremely interesting. It implies that S-M firms can expect enhanced effects on their availability of funds from banks in their area. These banks are expected to contribute to the local economy because they concentrate their financial business on local S-M firms in the region. Banks have an incentive to support local S-M firms. They ensure the availability of funds for firms maintaining a stable and long-term relationship with them. However, this incentive mechanism works so implicitly that firms are driven to strategically adjust their pattern of main bank dependence.



In conclusion, firms show different attitudes to their main banks: the explicit and stronger attitude of large corporations being based upon a stockholding relationship, the implicit and weaker attitude of S-M firms arising from local community relationships. Because of the implicit and weakly committed nature of their relationship, S-M firms, unlike large corporations, cannot expect a similar ex-post monitoring role of so-called rescue finance from the main bank. Accordingly, they tend to be more flexible than large corporations<sup>18</sup>. This contrasting state of affairs related to firm size accompanies an interesting difference in their main bank policy.

### B. Main Bank Relationship Policy

i) *Hierarchy policy*. — For large corporations, the stability of the main bank relationship is supported by a stable relative share policy (as analyzed in Table 6). The idea of this policy is to maintain as stable as possible a hierarchy of banks, in terms of the relative shares of banks with respect to borrowing, deposit, and other transactions<sup>19</sup>. Though S-M firms also apply this policy, they do so significantly less frequently than large corporations. More than 60% of large corporations in F4 usually apply this hierarchy policy to their routine fixed investment borrowing. The rate of application in the same field by S-M firms in F1 is less than 20%.

Although large corporations apply this policy to a great extent for routine finance, their application rate for new project finance is considerably lower. Indeed, for new project finance, the rate falls to the minimum of 23.5%. Hence, as regards their general core bank policy, they not only maintain a completely stable relative share among banks, but in terms of their corporate finance as a whole, also seek competitive effects between banks.

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<sup>18</sup> Japanese markets may penalize banks that do not take into consideration their clients' long-term growth. The punishment tends to become effective in local communities because of the limited alternatives available to banks. Thus S-M firms may have their main bank relationship with small local banks even though these banks cannot meet advanced financial needs as sufficiently as city banks. On the other hand, local banks approach their clients by emphasizing that they are local banks that have to develop hand in hand with them in the local community. For a theoretical analysis of the reputation factor in the main bank relationship see OSANO (1991). As far as empirical research is concerned, we have not yet concluded any definitive results because of the difficulty of identifying the various factors affecting the growth of firms.

<sup>19</sup> The hierarchy strategy of Japanese firms is widespread and important. For a theoretical guide, see the general theory by AOKI (1988).



COMPARISON OF MAIN BANK POLICY

TABLE 6

	F1	F2	F3	F4
A. Application of stable relative share policy <sup>1</sup> .				
1. Fixed investment borrowing				
Always	19.4	59.3	46.2	60.9
Case by case	38.7	29.6	40.4	27.0
2. Working capital borrowing				
Always	35.4	72.7	61.8	74.9
Case by case	36.9	15.2	29.1	17.7
3. Equity share issue				
Always	19.2	60.0	46.9	43.2
Case by case	7.7	10.0	34.7	38.2
4. Corporate bond guarantee				
Always	12.9	50.0	51.2	51.0
Case by case	9.7	28.6	32.6	37.3
5. New project finance				
Always	11.9	14.3	18.6	23.5
Case by case	35.7	42.9	48.8	44.3
B. Negotiation timing policy <sup>2</sup> .				
1. Routine investment finance				
Before plan settlement	21.4	18.2	27.3	9.9
At settlement	58.6	63.6	52.7	54.8
After plans have been made	18.6	15.2	18.2	29.8
2. New project finance				
Before plan settlement	41.3	35.5	39.6	20.3
At plan settlement	52.4	48.4	52.8	48.5
After plans have been made	6.4	12.9	5.7	24.4

## NOTES:

1. There were two more choices "never" and "others", besides the above two.
2. The fourth choice was "others".

Of course, S-M firms also seek such competitive effects. Indeed, although they undergo less adjustment in the number of banks than large corporations, they seek more flexibility in their main bank dependence. Their flexible dependence is a direct result of the main bank policy revealed in Table 6. Typically, the application rate for new project finance only reaches about 10% in group F1. The majority of small firms in this group prefers never to apply the ranking rule at all for new project finance. However, in group F4, this type of firm is in the minority. Generally, S-M firms seek more negotiation opportunities with banks than large corpora-



tions. This process of negotiation or searching for new banks may well have resulted in the greater degree of flexibility observable among S-M firms. This strong negotiation capability relates to their simple pattern of management organization and ownership. Most S-M firms are owned by their managers. Consequently, they display more flexibility in their financial management decisions, or, in simple terms, they have to behave flexibly. In other words, this flexibility may be enhanced by their weaker bargaining power with banks.

ii) *Negotiation timing policy.* — Large and small firms show another interesting negotiation policy difference towards their main bank or core banks. Differences in management structure and bargaining power with banks may be a contributing factor, as may be the asymmetry of information between banks and firms. Generally speaking, S-M firms are faced with a greater degree of asymmetry. However, comparing the asymmetry in various financial transactions, it is true to say that every firm has less information asymmetry with banks in routine investment finance than in new project finance.

Table 6 shows how S-M firms engage in early information exchanges with their banks. Large corporations, on the other hand, depend less on early information exchange and hence have lower negotiation costs. However, even for them, new project finance involves earlier phases of negotiation than routine finance.

The lower part of Table 6 illustrates these differences in detail. It is based on the answers to a question having four alternatives, about negotiation policy with core banks. We see that the number of corporations starting their negotiation for routine investment finance before the settlement of a plan is normally limited. Most firms initiate negotiations at the point of settlement. About 30% of large corporations choose merely to announce their plan. However, in the case of new project finance, unlike routine finance, they tend to rely more on an early negotiation policy.

Even in this case, which might seem to require more information exchange between banks and firms, about half the large corporations surveyed were able to obtain loan money with limited negotiation, (i.e., merely by starting the negotiation with banks at the same time as the settlement of their investment finance plan). Thus, a long-term relationship can help both firms and banks to mitigate the asymmetry of information and decrease negotiation costs.

Compared to the strong bargaining position of large corporations revealed in this negotiation policy, that of S-M firms is considerably weaker.



Even in the case of routine finance, there are more S-M firms than large corporations that prefer an early start to negotiation. In the case of new project finance, about 40% of them usually start negotiations before settlement. The equivalent rate for large corporations reaches a mere 20%. On the other hand, there are many S-M firms negotiating with the banks their investment plans<sup>20</sup>.

## V. SUMMARY

The present study of the main bank relationship in large corporations and S-M firms highlights several qualitative and quantitative similarities and differences.

Both large and S-M firms have about one main bank with which they tend to hold a long-term relationship. Although it varies in relation to firm size and wealth, the main bank relationship is widespread throughout Japan.

The most interesting qualitative difference is that the relationship of S-M firms is more flexible than that of large corporations. Given the constraint of using banks with a convenient branch network in their location, or, equivalently, emerging city banks in their market, they seek greater availability of funds and tend to vary their main bank dependence to a greater degree than large corporations.

Large corporations depend more on the hierarchy rule in order to maintain stable relative shares of banks in various financial transactions. They depend more on de-facto loan syndications than S-M firms. They can give their core banks stable relative shares in normal times, and can expect a rescue role from the banks in times of financial distress. Clearly, the organizational background supplying the motive for this is that these banks are major stockholders in the firms themselves. This mechanism does not generally apply in the case of S-M firms.

Nevertheless, not only large corporations but also S-M firms constantly seek competition effects between banks. These can be achieved by controlling the application of hierarchy policies, or by controlling the pattern of main bank dependence, or by adjusting the timing of negotiations. Indeed,

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<sup>20</sup> For firms in F2 or F3, the most probable negotiation policy tends to converge with that of F1. In Table 6, this similarity is evident in the case of new project finance. The result shows the existence of a gap between large corporations in F4 and other firms with respect to their finance opportunities. This is reflected in their differing answers to the questions on main bank policy.



in the case of new project finance, even in the midst of long-term relationships with banks, S-M firms depend less on the hierarchy rule and so tend to initiate early searches and negotiations with banks.

Banks tacitly assume competition among themselves. They compete to acquire higher market reputations for reliability or availability of supply. The main bank relationship is not entirely stable but can always change flexibly. In Japan, it began to incorporate more competitive elements in the period of financial liberalization. Differences related to firm size and wealth reveal the existence of an overall bargaining power. It is this power that forces banks to respond competitively to different demands, needs, and requirements.

APPENDIX  
CHARACTERISTICS OF FIRMS IN RELATION TO SIZE  
MEAN AND STANDARD DEVIATION

Characteristics	F1	F2	F3	F4	Remarks <sup>1</sup>
1. Rate of net worth	23.1 (41.2)	25.5 (16.4)	41.0 (20.0)	39.8 (17.8)	F1, F2 (F1-F3)
2. Average 5-year growth of annual turnover	2.4 (7.1)	8.0 (10.7)	12.3 (12.0)	7.9 (7.5)	F1 (F1-F3)
3. Gross profit /annual turnover	4.3 (5.0)	4.5 (5.1)	9.5 (6.6)	6.2 (5.3)	F3 (F1-F3, F2-F3)
4. Gross profit /total assets	6.0 (6.8)	6.4 (4.7)	7.3 (4.1)	5.8 (4.8)	— —
5. Current profit /annual turnover	3.7 (5.2)	3.2 (4.5)	8.7 (6.3)	6.2 (5.2)	F1, F2, F3 (F1-F3, F2-F3)
6. Current profit /total assets	5.4 (7.0)	5.6 (5.1)	6.9 (4.2)	5.9 (4.6)	— —
7. Net profit /annual turnover	1.8 (3.1)	1.2 (3.3)	4.4 (3.5)	3.1 (3.1)	F1, F2 (F1-F3, F2-F3)
8. Net profit /total assets	2.4 (4.3)	2.4 (2.4)	3.6 (2.8)	2.9 (2.4)	— —

NOTES: 1. Size categories in this column indicate those of firms that have more than a 1% significant difference in main bank dependence with respect to the F4 category. Figures in parentheses show other different pairings with the same level of significance.



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### RASSEGNA EMPIRICA DELLE RELAZIONI DELLE IMPRESE GIAPPONESI CON LA PROPRIA BANCA PRINCIPALE DA UNA INDAGINE DEL 1990 – CONFRONTO TRA PICCOLE E GRANDI IMPRESE

Questo articolo esamina gli aspetti microeconomici delle relazioni delle imprese giapponesi con le proprie banche principali e fa vari confronti fra dimensioni d'impresa partendo da una indagine del 1990 basata su risposte provenienti da 457 imprese di varie dimensioni. Sebbene sia grandi sia piccole imprese in media abbiano una banca principale, esse mostrano differenze qualitative e quantitative nelle relazioni con le loro banche. Le piccole imprese hanno rapporti più flessibili delle grandi. Le grandi imprese mantengono l'allocazione dei loro rapporti finanziari con le banche la più stabile possibile attraverso l'applicazione di una politica gerarchica. Recentemente, tuttavia, anche la loro relazione con le banche principali ha incominciato a incorporare elementi di maggior concorrenza di prima. Qui, si esamina in dettaglio il meccanismo che bilancia gli effetti di lungo termine e quelli concorrenziali dal punto di vista delle imprese.



## INTERFIRM RELATIONSHIPS IN THE JAPANESE AUTOMOBILE INDUSTRY

by  
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### 1. *Introduction*

In recent years, the nature of the relationships that major Japanese manufacturing firms have developed over a long period of time with their suppliers of parts and components has been discussed by scholars and policy makers from two different angles.

Firstly, in the context of trade conflicts between Japan and other industrialized countries, especially the United States, the relationships have become a major target of criticism. The critics have argued as follows. Major Japanese manufacturing firms, such as Toyota, Nissan, Hitachi, Toshiba, and so on, typically buy only from a select group of firms, called *keiretsu*, which has been formed having the purchasing firm either as the organizer or as a participating member. Members of such a group maintain perpetual business relations with each other, which nonmembers face difficulties to enter. Such practice is a Japan-specific phenomenon, and should be rectified, since it constitutes a major barrier to entry for those foreign firms who wish to sell parts in the Japanese market. The same argument has frequently been extended to accuse purchasing behavior of so-called Japanese "transplants". It has thus been argued that initiation of offshore production by major Japanese manufacturing firms is always accompanied by concerted overseas investments by their incumbent suppliers in Japan, which precludes opportunities for firms in the host countries to initiate business with the core manufacturers' "transplants".

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Secondly, on the other hand, a growing number of researchers and practitioners have come to perceive that the manufacturer-supplier relationships developed in Japan must contain several elements that have contributed to increase responsiveness of the production system constituted by a core manufacturing firm and its suppliers. For instance, the MIT Commission on Industrial Productivity (1989) has presented the following remarks. First, a remarkable feature observable in the Japanese automobile industry is that "team approach" seems to have worked well both in product development and in daily production. Second, such approach has been developed, not only across different functional departments within the internal organization of major car companies, but also across different firms between each car manufacturer and its suppliers. Third, regarding this aspect, the relations that major Japanese car manufacturers have developed with their respective suppliers seem to have outperformed both the vertically integrated organization of GM and the arms-length purchasing from outside suppliers by Chrysler<sup>1</sup>.

Thus, concerning the nature of the Japanese manufacturer-supplier relationships, two sharply contrasting strands of view emerge. The first view focuses on exclusiveness, which is regarded as stemming from some Japan-specific factor, and maintains that the relationships should be reformed since they constitute an aberration from the Anglo-American model of interfirm transactional relations that occur, or are supposed to occur, across the normal market. The second view focuses on the factors underlying the competitive strength achieved in some of the Japanese industries, regards such factors as worth emulating by manufacturers in other countries in order to gain or regain competitiveness in the corresponding sectors of the economy, and seeks ways to develop similar factors outside Japan. A similar coexistence of two strands of view is also found, although to a somewhat lesser degree, regarding the manufacturer-dealer relationships<sup>2</sup>.

Due to the coexistence of such two strands of view, it has become especially difficult to have a precise picture of the relationships that have been developed by major Japanese manufacturing firms with other firms

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<sup>1</sup> See the MIT COMMISSION ON INDUSTRIAL PRODUCTIVITY (1989, Vol. 1, 1-51).

<sup>2</sup> Representatives of U.S. automobile manufacturers have often maintained that their cars are hard to sell in Japan because it is difficult to find good dealers there who are willing to sell their cars, and this can be traced back to the tight control exercised by major Japanese core firms on the dealers who belong to their *keiretsu*. On the other hand, Chapter 7 of WOMACK et al. (1990) has regarded Japanese manufacturer-dealer relationships as an integral part of the *lean production* system and tried to find several factors therein contributing to the competitive strength of the system.



across vertically related stages of production and distribution. The purpose of this paper is to present an integrative view of the relationships based on my research which focuses on the manufacturer-supplier relationships in the automobile industry<sup>3</sup>. By the adjective "integrative", I mean to represent a feature of the methodology that I adopt in this paper. Namely, I try to provide a framework in which both the issue of new entry, the main concern of the first strand of view seen above, and the issue of efficiency, the main focus of the second, can be dealt with in a consistent way.

Section 2 gives a theoretical introduction to the remainder of the paper. Section 3 discusses the characteristics of the manufacturer-supplier relationships developed in Japan from the viewpoint of international comparison. Section 4 explains the concept of *relation-specific skill* that I deduced from the results of my field research. It is shown that precisely this concept provides the link between the entry issue and the efficiency issue. In the latter part of the section which concludes the paper I discuss the implications of my findings to the entry issue.

## 2. A Note on the Conceptual Framework

2.1. *Problems with the Term "Keiretsu"*. — In the discussions about the nature of interfirm relationships in Japan, the Japanese word *keiretsu* has been frequently used to name an especially close and cohesive kind of relations between firms, or alternatively, to name a collection of firms linked by such relations. I do not regard this term, however, as a useful concept for analysis for the two following reasons.

The first reason is that the word is ambiguous and often brings unnecessary confusion into the discussion. The ambiguity occurs in the following twofold sense. Firstly, the word has been used to designate two different sorts of entities. One sort of entity is a collection of firms which share the same *ex-zaibatsu* origin, often called *horizontal* corporate groupings. An often quoted example is the collection of member firms of *Kin-yokai*, the Presidents' Meeting of the large companies, whose roots can be traced back to the pre-war (WWII) Mitsubishi Zaibatsu; the collection of

<sup>3</sup> The main results of my research hitherto on manufacturer-supplier relationships have been published as ASANUMA (1984a, 1984b, 1989, 1992). In addition, ASANUMA and KIKUTANI (1992) have presented the results on the risk-sharing aspect of the manufacturer-supplier relationships in the Japanese automobile industry acquired through an econometric study of the data on individual suppliers, extending a pioneering work by KAWASAKI and McMILLAN (1987) conducted on the classified industrial data.



member firms of Nimokukai is its counterpart for Mitsui, while that of Hakusuikai is its counterpart for Sumitomo<sup>4</sup>. The other sort of entity represented by the term *keiretsu* is a collection of firms linked with a major core manufacturer by close and cohesive relations and constituted mostly by the suppliers and dealers of the core firm, often called *vertical* corporate groupings. Though one could find some resemblance or common elements between these two types of corporate groupings, the structure of the correspondence is rather blurred, so that the logical knot that warrants giving the same name to the two is not entirely clear<sup>5</sup>.

The main object of research in this paper, the relationships that major automobile manufacturers in Japan have developed with their respective suppliers, is an area which has conventionally been characterized by the notion that *keiretsu* in its second meaning, or vertical corporate groupings, are ubiquitous. But, even if we confine our attention to this second meaning, the term still bears ambiguity. In fact what is the criterion used to determine whether or not a given firm that has transaction with the core manufacturer actually belongs to the *keiretsu* that its core firm is supposed to have developed? Is the shareholding by the core firm the decisive criterion? Or, is the existence of longstanding transactional relations with the core firm regarded itself as the decisive mark? Depending on which criterion is used, the assumed scope or membership of a specific *keiretsu* under discussion will differ. Nevertheless, the criterion adopted is rarely shown by the discussant. Why do we not make our discussions in a more straightforward way in terms of subsidiaries, related companies, long-term contractual relationship, and so forth?

The second reason for my avoidance of the use of the term *keiretsu* is more important. The use of this Japanese term in a sentence, which otherwise is written (or spoken) in English, inevitably induces readers

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<sup>4</sup> See Chapter 8 of UEKUSA (1982) for more details.

<sup>5</sup> One of the early writers who explicitly used the word *keiretsu* to designate horizontal corporate groupings is MIYAZAKI (1964). Miyazaki seems to have intended by such use of the word to distinguish *zaibatsu* that existed until their resolution after World War II, a distinctive characteristic of which was the existence of the holding company at the top of each *zaibatsu* and the hierarchical control exercised therefrom, and their remnants after the resolution, that are characterized by the lack of such headquarters, or by more horizontal mutual relations among constituent firms. OKUMURA (1990) has criticized such terminology asserting that extending the use of the word *keiretsu* to include horizontal corporate groupings is misleading. I share the same opinion on this point, but proceed one step further. As will be clarified in the text below, my position is that the notion of *keiretsu* is too coarse to discriminate fruitfully various types of interfirm relationships spanned across vertically related stages of production and distribution and is therefore powerless for analytical purposes.



(or other participants in the discussion) to presume that whatever object meant by the word is bound to be something Japan-specific, like *sushi*, *sashimi* and *sumo*. Then the discussion evoked by the sentence naturally tends to go on within a closed circuit: Participants in the discussion would tend to search Japan-specific factors to explain seemingly or allegedly Japan-specific phenomena without questioning whether or not these phenomena are really Japan-specific. Such orientation in the research would make it difficult to pay due regard to the common task or challenge that contemporary manufacturing firms face regardless of their country-origin.

To appreciate the nature of this challenge precisely, and further to analyze from a comparative viewpoint the way in which each firm has coped with this challenge, we need to develop a conceptual framework that has not yet been incorporated in standard textbooks of microeconomics, a framework that is applicable universally regardless of the country-origin of the firm concerned. Let us elaborate this point a little more in the next subsection.

### 2.2. *An Underdeveloped Area in the Current System of Economic Science.* —

Be it a personal computer, a copier, or an automobile, a mass marketed durable good characteristic of today's economy is neither completely made by one single firm responsible for the brand it bears, such as IBM, Xerox, GM, or Toyota, nor sold directly by this firm to final consumers. A substantial portion of its parts and components are procured from outside suppliers, and most of sales activities are carried out by separately owned dealers. In other words, a typical manufactured good in today's economy is produced and sold by a *network* of firms, which a firm responsible for a specific brand (or a set of specific brands) creates by initiating business relations with other firms.

At the level of intuition, everybody will be able to understand without difficulty that the competition in manufacturing and selling today's typical goods inevitably becomes a competition between such networks. Nevertheless, very little has been known systematically as to the way in which the core manufacturer secures necessary adaptations on the part of the suppliers and dealers in the network it has created as environmental changes occur. Nor are economists today sufficiently equipped with the methodological tools necessary to compare structure and performance between different networks, or to give advice on how to set up or improve a network. This is a serious drawback in the current system of the economic science.

### 2.3. *Toward Development of a Systematic Analysis of the Network of Firms.*



— Until recently, many economists seem to have been satisfied with a very simplistic notion about the governance structure of transaction between firms. The notion is that, in *normal* cases, the *market* will serve as this governance structure. Moreover, it had been taken for granted that, in normal cases, the market is sufficiently approximated by the model of the spot or auction market. As far as such notion was dominant, a longstanding transactional relation between a pair of firms was bound to be regarded as an anomaly from the viewpoint of theory. This seems to be the basic reason why economic analysis of the network of firms lagged behind the developments that have occurred in the real world.

Since the 1970s, however, several economists have started to develop conceptual tools that provide useful footholds for the systematic analysis of networks of firms. Among others, focusing on procurement of intermediate goods by a manufacturer of some final good, Williamson (1979) submitted a theoretical framework that explicitly recognizes and can systematically deal with several different sorts of governance structure of transaction. The essence of this framework can be summarized as follows. First, the form of optimal governance structure differs depending on the nature of the specific transaction. Second, transactions can be classified according to (a) the degree of uncertainty involved in the environment of that transaction, (b) the degree of frequency of the transaction, and (c) the degree to which transaction-specific investments are incurred in connection with the transaction in question. Third, if we focus on a set of transactions characterized by an intermediate degree of uncertainty and relatively high frequency, the degree of specificity of the investment incurred (or of the asset formed by this investment) determines the optimal form of governance structure in the following way. When the degree of specificity is low, reliance on the usual spot market is least costly or most efficient. When the degree of specificity becomes intermediate, as in the case of customization of the materials to be supplied, the *relational contract* serves as the most efficient mechanism. Such a kind of contract between a fixed pair of parties leaves room for ex-post adjustments. Finally, when the degree of specificity becomes high, vertical integration becomes the best in view of transaction costs minimization.

This hypothesis submitted by Williamson is noteworthy. First, it has clarified, for the first time, that there are cases in which maintaining transaction for the time necessary for amortization of the transaction-specific assets between a fixed pair of firms becomes optimal from the viewpoint of economic theory. Second, it is based on a dynamic point of view. The central concern of the theory is whether under a given sort of governance



structure it is possible – and how much it will cost – to adjust price and/or quantity according to the environmental changes occurred after the initial agreement has been made.

To analyse the network of firms formed by a given core manufacturer, I use Williamson's framework as a useful foothold. More specifically, I start from the observation and characterization of the goods or services transacted and other features of the transaction concerned. To use expressions used in the system theory, this is the phase of investigation on the real sphere of a system<sup>6</sup>. Then, as the next step, I observe the governance structure, and try to deduce general properties of the governance structure that corresponds to each major category of transaction. This constitutes the phase of research on the control sphere of a system. When the transaction concerned is an interfirm transaction, rather than an intrafirm transaction, the object that must be investigated in every case as the basic part of the governance structure is the contractual framework adopted to regulate this transaction. Studies of shareholding could be added at a later stage as investigations on an upper layer of the governance structure. In this sense, my methodology can be called a transaction-based approach. In the next section, I present a picture of the manufacturer-supplier relationships in Japan that becomes observable when we adopt this transaction-based approach<sup>7</sup>.

We may note here that, reflecting the concern dominant among economists during the 1970s, the arguments made in Williamson (1979) have been focused on the *price adjustment vs. quantity adjustment* issue. In this sense, the perspective adopted in that work is only partially dynamic; the intermediate goods to be transacted are assumed to have already been developed before the analysis starts. Widening this perspective, I include the product development stage into the object of observation. By doing so, various types of interactions are observed to be required between the core manufacturer and his suppliers to keep going the production system constituted by them. Based on this observation, I have developed the concept of *relation-specific skill*, which will play the central role in fulfilling the aim of this paper.

### 3. *Manufacturer-Supplier Relationships*

#### 3.1. *Customized Goods and Longstanding Relations.* – Before going into the

<sup>6</sup> For the meaning of the real and control spheres of an economic system, see KORNAI (1971).

<sup>7</sup> Due to the limitation of space, only a very rough picture can be given in this paper. For more details, see the papers referred to in footnote 3.



automobile industry, I show data taken from the Japanese electronic/electric machinery industry. The data, in a sense, provides evidence that supports one of Williamson's predictions.

Figure 1, which is based on my field research and has originally ap-

73.5 %	PURCHASED GOODS 30.5%	SUPPLIERS IN GENERAL 26.5%
	43.0%	COMMON SUBCONTRACTORS 23.0%
		EXCELLENT SUBCONTRACTORS 15.0%
		RELATED COMPANIES 9.0%
26.5 %	OTHER IN-HOUSE PLANTS 4.0%	OWN PLANT 22.5%

FIGURE 1. Composition of parts and materials and that of their sources: an example.  
(Source: ASANUMA, 1989, p. 10)

peared in Asanuma (1989), gives data on a major plant which belongs to one of the representative large electronic/electric machinery manufacturers. The data shows the composition of the parts and materials procured by this plant (in the left-hand column) and that of the sources of supply for a fiscal year in the 1980s. The term *purchased goods* designates those types of items for which the supplier sets the specification and offers to the public regardless of the will or specific needs of the core firm. In other words, the core firm can purchase such items by merely selecting from the catalog provided by the supplier. Therefore such items are often called alternatively as *shibanhin* (*marketed goods*). On the other hand, the term *ordered goods* means those goods or services which are supplied by outside firms according to specifications issued by the core firm. It can therefore be interchangeably named as *customized goods*.



Regarding the sources of supply, the term *subcontractors* (*shitauke kigyō* or *gaichū-saki*) has been historically connected with the supply of ordered goods. The term *suppliers in general* (*ippan kobnyū-saki*) means the sources for purchased goods. From these, it can be seen that *related companies*, companies in which the core firms hold substantial shares, must provide both purchased goods and ordered goods.

According to the interviews that I made with managers of the purchasing division of this plant, for the purchasing goods category there has not been any specific tendency or policy on the part of the buyer to continue purchasing from a given supplier even if this supplier is awarded business at some time. It is said that 20 percent of the suppliers to this plant change annually as a consequence of competition, and that this frequent change occurs predominantly in the category of suppliers in general. In contrast, for the ordered goods category, such frequent changes do not occur. Basically, the buyer tends to keep the relation to some degree once a supplier has started to supply items in this category.

But the buyer does not apply exactly the same policy to all the suppliers that are supplying such items. Based on the ratings that the purchasing division exercises as to the abilities of the individual supplier and the degree of importance of the item supplied, each of the incumbent suppliers is given some rank. Thus suppliers are classified into A, B, C and D. The *excellent subcontractors* category in Figure 1 comprises Rank A and Rank B subcontractors, and the *common subcontractors* category in the same diagram subsumes Rank C and Rank D subcontractors. Based on this ranking system, the buyer applies his effort to develop relationships selectively.

Excellent suppliers are supposed to be suitable candidates with which the core plant should seek to build close and longstanding relationships, subject to repeated reappraisal. Among them, Rank A firms are those which have been most successful in establishing their reputation and the core plant often seeks to acquire part ownership with them. In contrast, Rank D firms are those which have finally come to be evaluated as hopelessly lacking the possibility of improvement, and the core plant wants to terminate the relation with them at a suitable time. Rank C firms are marginal suppliers. They are not necessarily awarded business continuously, but are given orders intermittently as the demand for parts or processing services goes up beyond the capacity available from in-house part manufacturing shops and excellent subcontractors. In other words, Rank C firms are retained on the first tier of suppliers as capacity buffers.

The facts reported above suggest the following regularities. First, while major Japanese manufacturing firms do endeavor to develop close and



longstanding relationships with some of the incumbent suppliers as has been widely perceived, such effort is exercised selectively depending on (1) the category of items transacted and (2) the ratings given to individual suppliers. As to (1), the effort is concentrated to the area of customized goods. As to (2), the effort is concentrated to Rank A and Rank B subcontractors.

Regarding the effect of (1) in the paragraph above, we can see a regularity that is consonant with Williamson's notion on the correspondence between the supply of customized goods and the maintenance of transactional relation under the governance via relational contract. But, there is also a subtle difference. In Williamson's framework, development of the goods transacted is assumed to have been already completed before the analysis begins. Thus, duration of the transaction is logically bound to be some time period within the life cycle of a specific part or material. On the other hand, the longstanding relations in the case of the Japanese plant we have seen generally continue beyond the life of a given model of a part. What is the factor that explains this sort of continuity? We shall come back later to this point.

*3.2. Differences between the Automobile and Electronic/Electric Machinery Industries.* — Let us touch upon the structural characteristics of the manufacturer-supplier relationships in the Japanese automobile industry and compare them with the corresponding relationships in the Japanese electronic/electric machinery industry.

In both industries, the central portion of the first-tier suppliers of a given core manufacturer tend to organize themselves into an association named *kyoryokukai* (cooperative association), which is a forum for information exchange between the core manufacturer and the member firms and for mutual learning through common seminars and mutual factory visits. To be eligible as a member, some qualifications are required. Though details differ between associations, generally annual sales to the core manufacturer are required to clear some threshold level, and continuity of the supply to the core manufacturer is required to surpass some mark, say, three years. Thus, members of this association can be taken as the relatively stable and important portion of the first-tier suppliers of a given core manufacturer.

If we compare this portion of suppliers between the two industries, we can readily note the following differences. (a) Most of the automobile manufacturers have the cooperative association of suppliers at the level that corresponds to the corporate headquarters, while in the electronic/electric machinery industry, cooperative associations are found at the plant or



product division level. (b) The proportion occupied by the members of the association in the first-tier suppliers is significantly larger in the automobile industry compared with the corresponding figure observable at the major plants in large electronics firms. (c) The number of new entries to and exits from a cooperative association in a year has tended to be small in both industries, and especially small in the top manufacturers in the automobile industry. (d) Purchasing managers in the automobile industry tend to perceive less necessity of securing capacity buffer type marginal suppliers on the first-tier, in comparison to their counterparts in the electronic/electric machinery industry.

The differences (a) to (d) above seem to be explained by the following factors. Difference (a): Automobile manufacturers in Japan concentrate on producing one single product, automobiles, while major electronics manufacturers in Japan generally produce a wide range of different products, assigning different sets of products to different plants. Differences (b) and (c): In comparison to large electronics manufacturers in Japan, Japanese automobile manufacturers buy a much smaller amount of items that belong to the purchased goods category in proportion to the total amount of the parts, materials, and services procured from outside sources. Difference (d): For some of the products offered by a typical large electronics manufacturer, the demand occurs only intermittently or shows a discontinuous time profile, while the demand for automobiles, especially for passenger cars, normally remains positive during the life of a given model, showing a continuous time profile.

3.3. *Classification of Parts and Interactions between a Supplier and the Core Firm.* — Let us go into the more detailed structure of manufacturer-supplier relationships developed in the Japanese automobile industry. Table 1, which is based on my interviews at various automobile manufacturers and suppliers and originally appeared in Asanuma (1989), shows a classification scheme of parts and suppliers.

The criterion for classification in this scheme is the degree of initiative that a typical supplier of a given category of part can exert vis-à-vis a given core firm in the development and the manufacturing stages. This variable, which henceforth will be called the *degree of technological initiative* for brevity, is measured along the horizontal axis of Table 1. The left-hand extreme of this axis corresponds to the situation in which the supplier can exert only a very passive role both in the development and the manufacturing stages. The further rightward we go, both stages increasingly contain black-box elements looking from the core firm. Along this axis I differen-



TABLE I  
CLASSIFICATION OF PARTS AND SUPPLIERS ACCORDING TO THE DEGREE OF INITIATIVE IN DESIGN OF THE PRODUCT AND THE PROCESS

Criterion for classification	Parts manufactured according to specifications provided by the core firm ("ordered goods")						Parts offered by catalog ("marketed goods") VII
	Parts manufactured according to drawings provided by the core firm			Parts manufactured according to drawings provided by the supplier			
	I	II	III	IV	V	VI	
Example	The core firm provides minute instructions for the manufacturing process	The supplier designs the manufacturing process based on blueprints of products provided by the core firm	The core firm provides only rough drawings and their completion is entrusted to the supplier	The core firm provides specifications and has substantial knowledge of the manufacturing process	Intermediate region between IV and V	Although the core firm issues specifications it has only limited knowledge concerning the process	The core firm selects from a catalog offered by the supplier
	Small parts assembled by firms offering assembly service	Small outer parts manufactured by firms offering stamping service	Small plastic parts used in dashboard	Seat	Brakes, bearings, tires	Radios, electronic fuel injection systems, batteries	

(Source: ASANUMA, 1989, p. 16)



tiate two major categories *marketed goods* and *ordered goods*, and, further, seven subcategories from I to VII. The reader may be able to notice without difficulty that the marketed goods category here is identical with the *purchased goods* category in Figure 1, and the meaning of the *ordered goods* category is the same as in Figure 1 and is equivalent to *customized goods*.

The main difference between Figure 1 and Table 1 is that in Table 1 I have introduced one very important dichotomy into the ordered goods category. That is the distinction between *DS parts* and *DA parts*. The former means the parts that are manufactured by outside suppliers according to the drawings supplied by the core firm, while the latter designates the parts manufactured by outside suppliers according to the drawings made by the respective suppliers themselves and approved by the core firm. Thus, DS stands for *drawings supplied (taiyo-zu)* and DA for *drawings approved (shonin-zu)*. The distinction between DS parts and DA parts is critical, because in the supply of the latter the supplier is asked to be engaged in not only manufacturing but also in product development. Subcategories from I to VI add finer partitions into DS parts and DA parts. Suffice to note here that examples in Table 1 are shown only as an illustration, and the actual location of a specific part may change depending on the actual bilateral relation between a specific core firm and its supplier.

During the duration of supply, a given core firm and its supplier interact in various aspects. This is because delivery has to be made continually as required by the buyer, while the volume of the part demanded by the core firm fluctuates from month to month as the demand for completed vehicles changes. In addition, to accommodate changes that may occur as to costs and prices, and to achieve systematic cost reductions, price renegotiations are conducted at regular intervals.

For later international comparisons, I note that in the Japanese automobile industry, a well-established practice is to let a given supplier continue to supply the same sort of parts during the life of a given model of car, provided that this supplier has been designated as the supplier of that sort of parts for that model of car at its development stage. But, when the full model is changed, normally at four-year intervals, there is no guarantee for the supplier that he will be awarded the order for the same kind of part of the next model; then competition resumes among the suppliers that have capabilities to supply similar kinds of parts. In sum, delivery of a given part normally continues for four years. During this period, price renegotiations are conducted at six-month intervals, and quantities are adjusted every month, and actual deliveries are made according to *kanbans* or other signals, as vehicle assembly proceeds over time, following the just-in-time philoso-



phy. If problems arise regarding quality or delivery, suppliers have to make corrective actions immediately upon receipt of notices from the core firm, since, otherwise, the production line concerned would have to stop.

The former paragraph referred only to the production stage. But, in the case of the ordered goods (or customized goods) type parts, interactions between the core firm and a given supplier should begin in the development stage, except in the case of a relatively small number of parts determined at the outset by the product development staff of the core firm to be carried over from a previous model of vehicle. Especially in the case of DA parts (plus the border-line subcategory of III), suppliers, or more precisely, candidates of suppliers, are asked to be involved quite early in the development stage. In response to the rough specification of the part communicated from the core firm, these firms conduct initial drawings, proto-type manufacturing and testing, report the results to and have consultation with the engineering staff of the core firm. Similar cycles will be repeated until final drawings for commercial production are completed.

Both in the case of DA parts and DS parts, not only the performance and quality, but also the price has to clear the target set by the core firm. In order to achieve these goals, the suppliers have to be engaged in process development as well.

*3.4. High Proportion of DA Parts in the Procurement by Japanese Core Firms.* — It has been widely perceived that, in comparison to GM and Ford, Japanese automobile manufacturers spend a higher portion of the costs needed to manufacture a unit of vehicle for payment to outside suppliers of parts and processing services. But, a more meaningful fact is that, in the Japanese automobile industry, the proportion occupied by DA parts in the total money amount paid for all the parts procured from outside sources is significantly higher in comparison with the same industry both in the United States and in Europe.

Asanuma (1984b) has noted that this must be an important characteristic of the Japanese automobile industry<sup>8</sup>. Recently, a beautiful quantitative evidence has been provided by Clark, Chew and Fujimoto (1987). They have collected several kinds of numerical data concerning passenger car development projects for the cars introduced in the 1980s. Their sample covers 8 car companies and 12 projects in Japan, 3 car companies and 6 projects in the United States, and 9 car companies and 11 projects in Europe. Table 1 in their paper summarizes several basic numerical data by

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<sup>8</sup> See ASANUMA (1984b, p. 48; English version: p. 52).



regions. Of a number of variables listed in the table, the variable named *Share in procurement costs* is pertinent for our purpose here. The parts are classified into the following three categories: (a) *Supplier proprietary parts*, (b) *Black box parts*, and (c) *Detail-controlled parts*. From the definitions of these terms given in the footnote to the table, we know that category (a) corresponds to the "marketed goods" type parts, (b) to DA parts, and (c) to DS parts in my terminology. The table shows that the percentage share of each category of parts is as follows. For Japan, (a) 8, (B) 62, (c) 30. For the United States, (a) 3, (b) 16, (c) 81. Finally, for Europe, (a) 7, (b) 39, (c) 54.

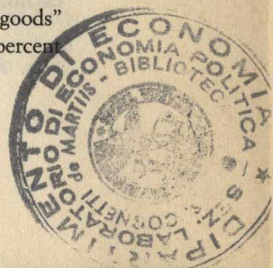
Clearly, the high weight of (b) in Japan stands out. The phenomenon represented by these figures has the implications that I set out in the following subsection. I should add that a recent study conducted by a graduate student under my supervision on a TV set manufacturer in Japan also has shown that the share of DA parts, or Black box parts, is higher than the other two categories<sup>9</sup>.

3.5. *Recent Movement in the U.S. toward Longer-Term Relations.* — Asanuma (1992) has presented a U.S.-Japan comparison of parts procurement practices by automobile manufacturers based on his field research conducted in the United States in 1986. The findings reported therein can be associated with the differences between the two countries we have just seen.

First of all, as touched upon in Subsection 3.3, a well-established practice in Japan is to let a given supplier continue the supply of the same sort of parts during the life of a given model of car, provided that this supplier has been designated as the supplier of that sort of part for the vehicle model at its development stage. This means that the supplier can expect that its business on a specific part would continue for four years under normal circumstances, once it has been awarded that business. This practice seems to be very natural for DA parts, since, except for a limited number of carried-over parts, each of the DA parts used in a given model of vehicle is developed in the development stage of this model predominantly by a firm which is to become the supplier of that part in the commercial production stage; under such a practice the firm can expect to recover the development cost over the life of the model.

On the other hand, until the period from 1980 to 1983, which marks a turning point in the history of the American automobile industry, a well-es-

<sup>9</sup> Of all of the parts purchased by the TV division of Company M, the "marketed goods" type parts occupy 20 percent, while DA parts and DS parts constitute 55 and 25 percent respectively. See Wu (1991).





tablished practice for U.S. automobile manufacturers was to set the duration of the delivery as one year for most of the parts. Especially in the case of GM, the corporate headquarters used to require the buyers in their purchasing organizations to reshuffle suppliers of each purchased items at one-year intervals through the mechanism of bidding. Such a policy or practice would have been effective, had the items transacted been standardized commodities. But, as described in Subsection 3.3, customized goods need significantly more complex interactions between the core firm and each of the suppliers than the "marketed goods" type parts. For such interactions to be exercised efficiently, skills are required to be accumulated in the organizations of the core firm and of suppliers and used in an effective way; to this end learning through continuous transactions and a sense of commitment of the supplier are crucially important.

Note here that the transactional relation implied by the one-year contract is not exactly identical with that implied by the spot market. Delivery continues repetitively for one year. The price is fixed at the outset, subject to some adjustment at the end of the contract period in case unpredicted nonnegligible changes in environment occur during the period. In view of these features, the one-year contract should be regarded as a kind of relational contract in Williamson's terminology. But, in the spectrum of all conceivable relational contracts, it occupies a position close to the spot market.

It is because as much as 81 percent of the purchased parts belonged to the DS parts category that the representative of the American core firms was able to switch the supplier of each purchased part at one-year intervals. Since, in the case of DS parts, drawings are owned by the core firm, the core firm could simply take back the drawings from one supplier and lend them to another.

However, by the period from 1980 to 1983, American core firms came to perceive that one of the competitive edges acquired by Japanese core firms must reside in their effectiveness in the product development process. At the same time, American core firms noticed that part of this effectiveness stems from the availability of so many DA parts suppliers that Japanese core firms enjoyed. Based on this perception, American core firms decided to change the structure of their supply network; they started to increase the proportion of DA parts and of their suppliers of DA parts. This change of policy has led these core firms to the *life cycle concept*. In this regard the Japanese and U.S. systems tended towards convergence.

### 3.6. Recent Movement in the U.S. toward Procurement at Higher Stages of



*Assembly.* – Among other observed facts reported by Asanuma (1992) there is the following. Whereas the typical number of suppliers of each of the vehicle assembly plant in GM was 800 as of 1986, the number of suppliers of the Takaoka plant, which is one of Toyota's vehicle assembly plant, was 125 as of 1983. If we take the following two factors into account, these figures mean that, on average, the suppliers of GM tended to supply parts in lower stages of assembly in comparison to the suppliers of Toyota. The two factors are: (1) the Takaoka plant has twice as large a capacity of assembly as a typical vehicle assembly plant in North America; and (2) whereas the Takaoka plant has a stamping shop inside, a typical vehicle assembly plant in North America does not.

In Subsection 3.5, I have noted that the period from 1980 to 1983 is a turning point in the history of the US automobile industry from which American core firms started to change the manufacturer-supplier relationships they had developed. One of the targets of this change is, as already noted, to increase the proportion of DA parts and suppliers thereof. Another target is to reduce the number of the suppliers on the first tier through removing technologically inferior suppliers, and to let those suppliers who survived this screening process supply parts at higher stages of assembly, even if the parts in question still remain in the DS parts category.

For instance, for GM, a previous practice was to assemble seats inside vehicle assembly plants, purchasing frames, adjustment levers, springs, paddings, and seat covers from outside sources. But the company has changed this practice and is now procuring assembled seats from outside. Typically for each of the vehicle assembly plant, one of the suppliers of the parts for seats in the previous period has been upgraded to the seat supplier of the plant, and the rest have either become the suppliers of this seat supplier or have been removed. In other words, a two-tier structure has been created instead of the previous single-tier structure, as the company began to procure seats from outside as a "system component".

Here again, we may note that the issue of the international difference of the structure of business organization or interfirm relationships should not be discussed in a static context. Several characteristics of the systems compared can change over time, and an important task for observers is to deduce from their observations which way the systems are moving and why<sup>10</sup>.

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<sup>10</sup> Based on a questionnaire survey, HELPER (1991) has provided an assessment of the current status of the manufacturer-supplier relationships in the American automobile industry held by the U.S.-based core firms after a decade of reform. She intends to extend this research to cover Japan-based core firms operating in North America.



#### 4. Generalizations from the Observed Facts

4.1. *Relation-Specific Skill*. — In Subsection 3.1 I considered a major plant of a large Japanese electronics manufacturer and showed that the suppliers with which its management tries to develop close and cohesive relationships are limited to those suppliers of customized goods who receive high ratings in terms of capabilities. Regarding major Japanese automobile manufacturers, as noted in Subsection 3.2, the proportion of those who have kept close and longstanding relationships in the population of all first-tier suppliers of a given automobile manufacturer is significantly larger in comparison to the case of electronics manufacturers. This difference can be explained by the structural factors referred to in Subsection 3.2. The purchasing attitude itself has been observed to be largely common between the automobile and the electronics manufacturers.

Thus, from the theoretical viewpoint, the main problem to solve boils down to the following. Why do the close and longstanding type interfirm transactional relations concentrate to the area where customized goods are transacted? In Subsection 3.2, I first noted that the findings summarized in Figure 1 are basically consonant with Williamson's framework. At the end of that subsection, however, I also noted a subtle gap between Williamson's treatment and a facet of the practice observable at the Japanese plant. To repeat the point, the gap is as follows: In Williamson's framework, the development of the intermediate goods transacted is assumed to have been already completed before the analysis starts. Thus, duration of the transaction is logically bound to be some time period within the life cycle of a specific part or material. On the other hand, the longstanding relations observable at the Japanese plant generally continue beyond the life of a given model of a part.

As noted in Subsection 2.2, the key introduced by Williamson to explain the existence of the relational contract is *transaction-specific investment* or *specialized asset*. However, if, by the term specialized asset, we only think of such kind of asset that is entirely specific to the needs of supplying one specific model of a part, such as specific dies, equipment, or drawings, the sort of longstanding relations that extend beyond the life of a given model of a part is hard to explain. To explain such sort of relations, we need to expand Williamson's notion of specialized asset.

What Asanuma (1989) has submitted by introducing the concept of *relation-specific skill* is one way of achieving such an expansion. This concept categorizes the supplier's capabilities to secure an efficient response to the needs of a specific core firm. To assure satisfactory performance



as to quality and delivery, even in the case of "marketed goods" type parts suppliers are required to make the levels of corresponding components of their organizational skill clear some threshold. But, as noted in Subsection 3.3, in the case of customized goods, suppliers need to be engaged in complex interactions with the core firm starting from the development stage of a particular part. The capabilities required for such interactions are nurtured, to a considerable degree, by the learning achieved through repetition of similar interactions with a given core firm. I think this is the fundamental factor that underlies the continuity of the relations beyond the life of one single model of a customized good<sup>11</sup>.

4.2. *Implications to the New Entry Issue.* – Now I turn back to the new entry issue raised in the context of trade conflicts. What are the implications of my explanatory framework to the issue of entry of parts manufacturers to the supply network spanned by a core firm?

For the items that fall under the "marketed goods" type parts or material, new entry is relatively easy as illustrated by the case discussed in Subsection 3.1. However, even for this type of goods, a relation-specific skill is required to maintain quality standards and delivery schedule issued by the core firm.

For DA parts, new entry is most difficult. This is because in the case of DA parts suppliers are required to participate in the development of the next model of the final product from a very early phase, and it is not easy for any supplier to demonstrate to have a sufficient level of capabilities to have interactions in an efficient way with that core firm, unless the core firm already has experienced interactions with this supplier in the past. This is the fundamental reason why incumbent suppliers tend to be in an advantageous position to receive orders or inquiries, as far as their performances continue to get high scores from the core firms in the rating it continually exercises.

For DS parts, the situation is in-between. Suppliers of DS parts are required to have – in addition to relation-specific skill of the kinds that are required in the case of the "marketed goods" type parts – abilities to clear

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<sup>11</sup> To have interactions with the suppliers effectively and efficiently, it is also required on the part of the core firm to develop a set of organizational skills inside its organization. For instance, to implement the JIT system in an appropriate way, it is indispensable for the core firm to develop techniques to achieve leveling of production both in volume and in kind, and to develop the monthly production plan very carefully so as not to change it abruptly once it has been made and sent to the suppliers to let them prepare for the delivery in a coming month. See ASANUMA (1991) for this point.



the price target set by the core firm through an assiduous effort to improve the process and the design of the product. Like in the case of DA parts, incumbent suppliers tend to have some advantage over nonincumbents, since the core firm could save the screening cost by using those firms who already have demonstrated during the course of recent transactions to have sufficient capabilities.

However, the foregoing argument does not mean that there is no possibility of entry for nonincumbents. Firstly, as set out in detail by Asanuma (1989), the relation-specific skill has a two-layer structure. The learning from the past experience of transactions with the specific core firm affects only the upper layer. The basic layer is determined by investments in technology. In those product areas where basic technology is relatively in a fluid state, firms with a strong basic layer can relatively easily overtake such incumbent suppliers that have a weaker basic layer. Secondly, among large manufacturers there exists one common tendency in their purchasing attitude. That is, they prefer to develop and keep many sources for the items they have decided to procure from outside, as long as their demand volume calls for many sources and these are available. The motive for this is to keep competitive stimuli. For this reason, core firms tend to gradually add new sources of supply to the incumbents, provided that the business of the core firm in question keeps growing over time.

Besides seeking to supply some DA parts to a new core firm from the outset, which is a more demanding task, there are two possible roundabout routes to go into the business of supplying DA parts to a given core firm. One is via evolution from the supply of some "marketed goods" type parts of a similar nature. The other is via evolution from some related DS parts.

In this way, if we carefully investigate the regularities of longstanding transactional relationships based on a methodology that can accommodate evolution of the economic system and its components linked by these relationships, such studies can not only shed light to the elements overlooked by conventional approaches, but also serve to help new entry.

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## RELAZIONI FRA IMPRESE NELL'INDUSTRIA AUTOMOBILISTICA GIAPPONESE

In Giappone la natura delle relazioni fra produttori e fornitori è diventata difficile da capire per la coesistenza di due visioni differenti. In una prevale l'esclusività e considera le relazioni come una aberrazione del normale concetto di scambio mediato dal mercato; l'altra sottolinea l'efficienza e cerca di trovare elementi trasferibili in campo internazionale. Sulla base dei risultati di una ricerca sul campo, questo articolo presenta uno schema teorico che può affrontare il problema dell'esclusività e quello dell'efficienza in modo integrato. La chiave per capire il problema è il concetto di abilità specifica derivato come sviluppo della nozione di Williamson di patrimonio specifico per incorporare le interazioni fra le imprese allo stadio di sviluppo del prodotto.

Si mostra che questo concetto chiarisce perché le relazioni di scambio continuano spesso oltre la vita di un dato modello, e che nello stesso tempo è utile ai fornitori potenziali che cercano di entrare nel mercato.



## TRAINING PRACTICES IN JAPANESE, BRITISH AND GERMAN FIRMS

by  
MARI SAKO \*

### 1. *Introduction*

Education and training (ET) and its contribution to industrial competitiveness have been at the centre of public policy concern in most advanced industrial countries. Establishing empirically the causal link and direction between ET and industrial success has proved difficult. Many other factors besides ET influence industrial productivity (Pratten, 1990). But as world markets in manufacturing goods have become increasingly integrated, and physical capital more mobile, views as to the source of Japan's industrial success have changed. Whereas in the past people might have thought that the key to Japan's competitiveness was more and better physical capital, today they regard the Japanese edge as deriving from its capacity to generate a well-educated and trained workforce. Consequently, Japanese companies can implement flexible, worker-dependent production methods, giving high discretion and control to workers. The resulting dynamic interaction between machinery and labour – which Shimada and Macduffie (1986) appropriately call 'humanware' – facilitates shorter product development cycles and continuous process innovation which are becoming essential for a relatively high wage nation to remain competitive in the world economy. This undeniable logic has led to the recent US-Japan bilateral SII talks to identify ET as one of the 'structural impediments' to international trade.

It is in this context that this paper discusses the following questions with respect to Japanese multinational companies (MNCs) in Britain and Germany.

(a) Is there a systematic difference in performance (as measured by produc-

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tivity and quality levels) between Japanese plants located in Britain and those located in Germany? If so, how much of the difference appears to be explained by differences in the approach to training?

- (b) What modifications, if any, are being made to the philosophy and type of training Japanese companies provide in Japan when training non-Japanese workers at their European plants? Do the nature of modifications differ from country to country in Europe, and if so what is the reason for them?

With respect to (a), previous British-German comparisons have indicated a wide gulf in productivity. In particular, in a series of studies which compared productivity in indigenous British and German companies in a range of sectors (namely metalworking, woodworking, clothing, hotels and retail sectors), West German productivity was found to be up to 60 per cent higher than British productivity (Prais et al., 1989). Earlier, Pratten (1976) also found in his study of multinational companies with plants in Europe and North America that productivity was up to 35 per cent higher in Germany than in Britain. Does a similar British-German gap exist within Japanese MNCs? This is what one would expect from previous studies which attach importance to the better qualified manpower in Germany than in Britain.

A study of Japanese multinational plants in Europe provides a potentially ideal setting for assessing the implications of training for performance. This is because by comparing Japanese plants in Japan and their European counterparts, it would be possible to separate the contributions to productivity of national cultural influences from organizational techniques (including those in the training areas) commonly applied in Japan (Ryan, 1991). For instance, if the application of identical techniques in British-based plant under British cultural conditions leads to the same performance outcome as at its HQ plant in Japan, the role of national culture is diminished.

Also a number of variables may be controlled in the comparison. First, the quality of management (at least at the top) can be controlled to a certain extent as management in Japanese plants in Europe has not yet been greatly localized. Moreover, given that the product development and design function has not been decentralized by most Japanese MNCs to date, British-based and German-based plants are producing goods similar to the ones manufactured at their HQ plants in Japan. Their process technology may also be alike because large investment decisions are taken not autonomously at the plant level but with the approval of the MNC HQ in Japan. These facts undoubtedly make it easier to conduct a study of the link between training and its performance outcome, which is infested with a multiplicity



of explanatory variables. It may be hypothesized that the less localised management, product design and process technology are, the less likely that the British-German productivity gap persists in Japanese MNC plants. Here, the need for standardization in training practices may be seen to derive from uniform product design and process technology. Japanese management may also apply the same investment criteria across locations, so that for instance, British-based Japanese plants would not suffer from the short-termism British-owned firms are often said to adopt when investing in physical or human capital.

The above picture is, however, rather mechanistic in its focus on unidirectional causation. It may well be that modifications are made to equipment and machinery, so as to suit the level of local manpower quality. The productivity gap between countries may thus be preserved or accentuated. This points to the possibility of a difficult-to-break virtuous circle of skill promotion, i.e. a "high skill equilibrium" (Finegold and Soskice, 1988) on the one hand, and a vicious skill-denying circle on the other hand. These aspects of productivity will be examined in the empirical section of this paper.

The next section will consider the second question (b) in general terms, before turning to the case study evidence of Japanese multinational plants in Britain and Japan.

## *2. Training Systems and Labour Markets in Britain, Germany, and Japan*

This section does not provide a general description of how education and training systems function in Britain, Germany and Japan<sup>1</sup>. Instead, it will compare and contrast the main features of the three countries' systems so as to gauge the options available to Japanese MNCs in modifying, or not modifying, their training philosophy and practices when setting up plants in Britain and Germany. A certain degree of stereotyping – or "stylization" – is inevitable at this level of generalisation. The comparisons focus on dominant practices in dominant sectors in each economy. This focus is considered not so inappropriate to our present context, which is confined to the internationally traded sector in which Japanese MNCs invest overseas.

For initial training of young people, the two host countries to be studied, Britain and Germany, have had similar apprenticeship-based train-

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<sup>1</sup> See Table 1 for a summary of the education and training system and surrounding institutions in the three countries.



TABLE 1

ENTERPRISE TRAINING IN WEST GERMANY, JAPAN AND BRITAIN

	W. Germany	Japan	Britain
Training modes	<ul style="list-style-type: none"> <li>* Dual System</li> <li>* Formal courses and qualifications</li> <li>* Opportunities for further training</li> </ul>	<ul style="list-style-type: none"> <li>* Short-term off-the-job training and continuous OJT</li> <li>* Informal but systematic methods (QCCs)</li> </ul>	<ul style="list-style-type: none"> <li>* No predominant mode</li> <li>* Decline in traditional apprenticeships</li> </ul>
Historical	<ul style="list-style-type: none"> <li>* Medieval craft tradition</li> <li>* Training and trade schools since 16th century</li> </ul>	<ul style="list-style-type: none"> <li>* Employment stabilization strategy in c20th</li> <li>* Paternalism</li> <li>* US practices (Taylorism, QC)</li> </ul>	<ul style="list-style-type: none"> <li>* Laissez-faire and self-help since Industrial Revolution</li> <li>* Discontinuity in government policies</li> </ul>
Education system	<ul style="list-style-type: none"> <li>* Selective</li> <li>* Broad curriculum</li> <li>* High maths attainments with small dispersion</li> <li>* High staying-on rates</li> <li>* Vocational career guidance</li> </ul>	<ul style="list-style-type: none"> <li>* Comprehensive</li> <li>* Broad curriculum</li> <li>* High maths attainments with small dispersion</li> <li>* High staying-on rates</li> </ul>	<ul style="list-style-type: none"> <li>* Comprehensive</li> <li>* Narrow curriculum with anti-industrial bias</li> <li>* Large dispersion in attainments</li> <li>* Low staying-on rates</li> </ul>
Labour markets	<ul style="list-style-type: none"> <li>* Occupational labour markets</li> <li>* Payment by vocational qualification</li> <li>* Steep skill differentials in pay</li> </ul>	<ul style="list-style-type: none"> <li>* Internal labour markets ("lifetime employment")</li> <li>* Payment by seniority and merit</li> <li>* Steep pay differentials by age</li> </ul>	<ul style="list-style-type: none"> <li>* Youth labour markets exist</li> <li>* Payment by skills and experience</li> <li>* Narrow pay differentials by age and skills</li> </ul>
Inter-firm relations	<ul style="list-style-type: none"> <li>* Network of business associations</li> <li>* Inter-plant training centres</li> <li>* Group training associations</li> </ul>	<ul style="list-style-type: none"> <li>* Cooperative sub-contracting relations</li> <li>* Cooperative joint training provisions by small firms</li> </ul>	<ul style="list-style-type: none"> <li>* Absence of cooperative inter-firm relations</li> <li>* Reliance on market mechanisms</li> </ul>



ing systems (Marsden and Ryan, 1990). However, a contrasting trend is evident in the two countries. In Germany, the sole route to skilled status remains the Dual System, which encompasses over 70 per cent of young people (aged 16 to 19), spread across all sectors of the German economy. A relatively low apprentice allowance has been maintained in occupational labour markets by 'social partners' (i.e. employers' associations and trade unions) which jointly regulate training standards as well as pay levels. High pay differentials by skill status ensures that returns to apprenticeship are high for individuals, and that employers' incentive to provide training is also enhanced. Moreover, a strict linking of qualifications to pay levels in industry-wide collective agreements contributes towards eliminating 'poaching' as a viable alternative to training for most employers. Thus, the German training system is sustained by external regulation, which requires much coordination among employers, unions, and the public sector. Although such coordination may be prone to rigidities and inertia, the tripartite actors in Germany have worked towards adapting the Dual System to meet new needs, for e.g. in technology, within the existing regulatory framework, rather than attempting to transform it in any fundamental way.

In Britain, by contrast, apprenticeships have been eroded particularly in the 1980s, for instance from 150,000 in 1979 to 55,000 in 1988 in the manufacturing sector (Training Agency, 1989, p. 15). Youth Training, or the Youth Training Scheme (YTS) in the past, is not recognised as an alternative form of long-term training for young people. Consequently, by 1988, only 16 per cent of 15-16 year olds were on YTS, while 32 per cent were in full-time education. The rest were either employed (42 per cent) or unemployed (10 per cent). Outside YTS and declining apprenticeships, long duration training given by employers is the exception rather than the rule; three-quarters of the school leavers going into employment outside YTS in 1986 received either no training or training lasting less than a year (Training Agency, 1989). Marsden and Ryan (1990) attribute the erosion of apprenticeship-based training, and the degeneration of British labour markets into more internal forms, to the absence of an appropriate regulatory framework as in Germany. In particular, as part of deregulation policies in the 1980s, Industrial Training Boards and Wage Councils were abolished. This led to the widening of youth-adult pay differentials in sectors requiring relatively little training, while relative youth pay crept upwards in sectors such as engineering requiring expensive training. The latter was an outcome of collective bargaining, in which unions feared "low pay, low quality" apprenticeships in the absence of a regulatory safeguard against apprentice-adult worker substitution. The perverse incentives created for employers as



well as individuals not to train are evident. It is unclear whether the newly created TECs (Training and Enterprise Councils) would regenerate employers' commitment to train through local-level coordination.

From the viewpoint of Japanese MNCs, British and German labour markets offer a different trade-off of opportunities and constraints. On the one hand, Germany may be chosen as a location because of the availability of good quality technical manpower. But the statutory regulation concerning training would bind Japanese MNCs to conform to the German way if they were to build a reputation for being good corporate citizens. On the other hand, Britain may be selected for its lack of regulations in training and other areas, because this allows Japanese MNCs to adopt the same well tried and tested methods as in Japan. But they must face a labour market with workers whose levels of general educational attainment are lower on average than in Japan. Thus, as far as the issue of regulation is concerned, one may hypothesize, apropos of Question (b), that Japanese plants located in Germany assimilate more to the host country's philosophy and method of training than plants in Britain.

Deregulation in Britain, however, only creates a scope for applying 'Japanese-style' training philosophy and methods, which are characterized by broad-based initial training of young recruits with high general education attainments; this becomes a basis for recurrent training and retraining in lifetime employment careers. Conditions may be created by Japanese MNCs to "Japanize" their British workplaces, by choosing a greenfield site unaffected by past experience, by signing a single union agreement which enables flexible working and the de-linking of pay from skill status, by engaging in rigorous selection for attitudes as much as for technical skills, and by offering employment security and internal promotion prospects. However, Japanese plants cannot be totally insulated from external labour markets particularly because of their small and medium size. The lack of lifetime employment orientation is likely to militate against the wholesale adoption of Japanese training philosophy and methods. Moreover, lower educational attainments of shopfloor workers may have led Japanese MNCs to modify process technology, thus affecting training requirements. These issues will be examined later.

In Germany, the apprenticeship-based training giving rise to clear-cut occupational labour markets is often portrayed in stark contrast to enterprise training in internal labour markets of large Japanese companies. The former enshrines the principle of individual freedom inherent in training contracts; no skilled worker is obliged to remain loyal to the firm which trained him/her, and no training firm is obligated to employ those young people to



whom it provides training. Qualifications attained through training are perfect passports to future job mobility. However, in reality, large prestigious German enterprises prefer to train apprentices in-house and retain them after training. This is because externally available apprentice-qualified workers are second best to the best pick large firms have had among a cohort of school leavers. Skill qualifications, therefore, are to an extent indicators of general ability (just like educational qualifications in Japan) as well as of technical competence in Germany.

Despite different labour market structures, other common features exist in the training area in Germany and Japan as follows (Sako, 1991).

(a) Both German and Japanese employers provide a broad-based foundation training of technical knowledge and skills for young workers as a basis for further learning.

(b) The individual motivation to acquire skills is enhanced by employers who provide a clear progression route for promotion and reaching higher skill levels (via the Meister qualification in Germany, and via more finely graded promotion to group leaders and supervisors in Japan).

(c) Employers' incentive to provide general as well as specific training is enhanced by lower relative youth pay, although the steep earnings profile corresponds to skill differentials in Germany and to seniority in Japan.

(d) Much responsibility for training young workers falls upon supervisors and foremen who themselves receive sufficient training in pedagogical skills as well as in technical skills.

In fact, this last feature points to a German-Japanese similarity in shopfloor work organization: much discretion is given to supervisors, leading hands and operators who are entrusted to solve problems and to engage in mutual learning as well as to carry out routine tasks. Sengenberger makes a related point as follows:

"Jobs in Great Britain are defined in terms of a set of tasks or a job territory and viewed as a property right by the job holder, whereas in Germany, jobs tend to be defined more as a range and level of technical and organizational competency. So, the difference is really between a rather exclusive job territory and a non-exclusive territory of skill or competence. And it is in this respect where I consider the Japanese system of work place relations despite the absence of vocational training to be much closer to the German than to the Anglo-Saxon pattern". (Sengenberger, 1987, pp. 256-7).

To summarize, from the discussion above, Japanese MNC plants are expected to conform more to the German training methods when located in Germany than to the British mode when located in Britain because of a



greater degree of regulation and coordination among 'social partners' which is more necessary in Germany than in Britain. However, the German training principles are not so different from the Japanese one, making assimilation by Japanese plants easier than is often thought.

### 3. *The Case Study Companies*

The following sections report on preliminary findings from an on-going research project on Japanese MNCs in Europe<sup>2</sup>. The sample consists of Japanese manufacturing MNC plants in Britain and Germany. The two countries were chosen not only because they are the most popular (in the case of Britain) and the fourth most popular (in the case of Germany, after the Netherlands and France) locations for Japanese direct investment within Europe. It is also because one of the purpose of the research, as mentioned earlier, is to examine if the performance gap between British and German plants persists in the case of Japanese MNCs.

Japan's direct overseas investment (on an accumulated value basis) in Europe as of March 31 1990 was worth \$45 billion, which constituted 18 per cent of Japan's worldwide overseas investment. Of the \$45 billion, \$8 billion was in the manufacturing sector (Anglo-Japanese Economic Institute, 1991, p. 16). Within the manufacturing sector, a regular JETRO survey identified 529 Japanese subsidiaries and affiliates as of the end of January 1990 (JETRO, 1990). Japanese manufacturing companies' participation in Europe has accelerated particularly since the latter half of the 1980s. Of the 529 firms, the greatest concentration is seen in Britain (with 132 firms), and the third highest concentration after France in Germany (with 89 firms). By sector, electronic and electrical machinery is most common, accounting for 86 firms, of which 25 are located in Britain and 19 in Germany.

The investigation concentrates on this sector so as to enable inter-plant comparisons of machinery and skills. The electronic and electrical machinery sector, which includes the manufacture of such goods as colour television sets, VCRs, and printers, happens to be a sector in Japan enjoying relatively high productivity, together with the car industry, compared to the rest of the economy (such as retail and distribution) (Abbeglen and Stalker, 1985, p. 61-2). In these sectors, the assembly processes involve a large number of interdependent steps which must be coordinated, thus rendering potential

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<sup>2</sup> The project is funded by STICERD (Santory Toyota International Centre for Economic and Related Disciplines) at the London School of Economics.



TABLE 2

## SUMMARY OF CASE STUDY FIRMS

COMPANY NAME	ESTABLISHED	CAPITAL	EMPLOYEES
A Electronics Ltd	1981	£ 9.5m	1062 (7)
B Electronics Ltd	1981	£ 5m	600 (12)
C Electronics Ltd	1984	£ 9m	900 (15)
A Electronics GmbH	1986	DM 12.95m	220 (5)
B Electronics GmbH	1984	DM 13.5m	410 (8)
C Electronics GmbH	1982	DM 20m	574 (6)

N.B. The employee figure in brackets is the number of Japanese at the plant.

loss in productivity due to machine breakdowns and line stoppages great.

Of the 25 plants in Britain and 19 in Germany, there are a handful of Japanese companies which have plants in both countries. This paper concentrates on three such cases of paired plants in Britain and Germany (see Table 2). The sample to date is too small to make broad generalisations, but details on variation between, as well as within, Britain and Germany are of interest and will be the basis for further investigation.

All plants were visited, for a factory tour and semi-structured interviews. Interviews lasted between two hours and a day and a half. At a minimum, one Japanese manager and one local top manager were interviewed at each plant. Usually, the local manager was in the personnel function, while the Japanese manager was knowledgeable about industrial engineering, and could make explicit comparisons of performance at the British-based or German-based plant and its HQ plant in Japan. According to circumstances, specific questions were also addressed to other Japanese and local managers in quality control and purchasing, and to supervisors.

#### 4. *Productivity and Quality Levels*

Table 3 shows the average productivity and quality differentials between each British-based or German-based plant and its corresponding HQ plant in Japan. The limited size of the sample ought to be kept in mind. But plant by plant variations are so great that no generalisation can be made about whether British-based or German-based plants are performing better. In comparisons with the HQ plants in Japan, however, British and German-



TABLE 3

## PRODUCTIVITY AND QUALITY DIFFERENTIALS

COMPANY	BRITAIN			GERMANY		
	A Ltd	B Ltd	C Ltd	A GmbH	B GmbH	C GmbH
PRODUCTIVITY	92.5	90	95	85	95	87.5
QUALITY	750	255	200+	150	200	365

N.B. Productivity in Japan = 100

Quality defect rate in Japan = 100

based plants are worse in their quality performance than in their productivity levels.

The measure of productivity most commonly used in the sample plants is the ratio of standard time to actual time taken to process and assemble final products. Standard time is calculated in Japan and adjusted locally, for example for the degree of automation. Equivalent measurements are available for each European-based plant and its corresponding HQ plant in Japan by virtue of their belonging to the same MNC. Thus, comparability of measure is preserved, even if the measuring formula may differ from company to company. The British-Japanese productivity gap ranges from 90 to 95, while the German-Japanese productivity gap ranges from 87.5 to 95.

The measure of quality varied more greatly from plant to plant. Some companies used the end-of-line reject rate (or the corresponding pass rate), while some others counted the number of defective points discovered plant-wide. Whatever measure was used, however, the consistency of measure between each European-based plant and its Japan-based counterpart again ensures comparability. The British defect rates range from twice to 7.5 times as high as in Japan, while the German defect rates range from twice to 3.65 times as high as in Japan.

The sources of productivity and quality differentials are various. The rest of this section concentrates on (i) the nature of product markets and competition, (ii) the quality and origins of raw materials and components, and (iii) the organization of work.

(i) *The nature of product markets.* — The fierce competition which exists in the Japanese domestic consumer electronics markets has been transposed in Europe through direct overseas investment by all major Japanese manufacturers in Europe. The competition is based as much on new product develop-



ment and shorter product cycles of existing goods incorporating new features, as on competitive prices. In Japan, the model cycle for such established goods as colour television sets and VCRs which the case study plants manufacture is said to have shortened to one year. The cycles within Europe, according to some plants, are apparently slightly longer, by up to 2 years. However, the same pressure to shorten model cycles exists due to the competition among Japanese manufacturers, and because the design and development of chassis in the case of TVs and the mechanism in the case of VCRs are undertaken at the HQ plants in Japan.

While there might be respite for some European-based plants due to longer model cycles, they must also cope with a smaller target market than their Japanese HQ counterparts or the subsidiary plants in the USA. The target market for the case study plants is the EEC region in most cases, which consists of 12 countries requiring different specifications. Consequently, British- and German-based plants produce a greater number of models in smaller batches than their HQ plants in Japan. For example, in Germany, A Electronics GmbH makes 60 to 70 models in a year, B Electronics GmbH 55, and C Electronics GmbH 40. In Britain, A Electronics Ltd makes 110 to 120 models and C Electronics Ltd 30 models. At B Electronics Ltd, the number of models, 80, was smaller than the 200 models produced at the HQ plant in Japan for export and domestic purposes, but the average batch size, ranging from 500 to 1000, was considerably smaller than the Japanese plant average of 3000 to 5000.

Smaller batch sizes make it more difficult to exploit economies of scale and to control for quality. Although no precise figure was available, the degree of automation at British-based and German-based plants was also said to be lower than at their HQ plants in Japan due to small batch production. In Japan, some companies such as C Electronics also have two separate factories, one specializing in product development, and the manufacturing of prototype and small batch high value-added products, and the other specializing in larger batch production. The productivity and quality comparisons are complicated by this, and figures in Table 3 shows the average variations as against the two plants in Japan.

(ii) *Quality and origins of raw materials and components.* – Next, plant-level performance is affected by the quality of raw materials and components. The sourcing of raw materials and components within the EEC is said to be the greatest problem facing Japanese companies (JETRO, 1990). There is also evidence that with the exception of a few European supplier companies such as Philips, the general lack of involvement of local suppliers in the



product development and design process hinders European-based Japanese plants from pursuing continuous cost reduction and quality improvements jointly with local suppliers (Sako, 1992).

The six case study plants all had local contents ratios well above the EEC guideline. The modal ratio was in the range of 60 to 65 per cent, with C Electronics achieving a maximum of 90 per cent. By the time of the interviews, none of the plants was simply assembling from SKD (semi knock down) kits; the nature of the assembly and processing was therefore more than mere screw driver operations. In this context, the inferior quality and locally purchased components was mentioned as one of the several reasons why British and German-based plants had lower productivity and quality than at their Japanese HQ plants. C Electronics also mentioned the lack of service of some suppliers; for instance, a reason why some non-standard components were not automatically inserted onto printed circuit boards was said to be because the local supplier of those components refused to undertake special packaging so as to be able to feed them directly onto the insertion machines.

Loss of efficiency also derived from the higher level of inventory-holding at European-based plants partly because the leadtime for ordering from the Far East is longer, and partly to insure against late delivery from local European suppliers.

*(iii) Organisation of work.* — Within each case study plant, a major reason for the inferior performance as compared to the HQ plant in Japan was said to be the nature of internal work organisation and management. In particular, individual workers' work speed and technical skills are said to be not so different from those at the plants in Japan. What are different are workers' attitudes on the one hand and supervisory management on the other hand.

At the individual level, there is first a difference in quality consciousness. Careless mistakes due to lack of concentration may become acceptable and normal on the shopfloor. At B Electronics plants in both Britain and Germany, a version of Quality Control Circles has been implemented recently, contributing to an improvement in in-house quality levels. Further improvements in quality by eliminating defects caused by individual operators were said to be a matter of time.

More difficult to inculcate is a sense of teamwork, according to some Japanese managers. For example, A Electronics Ltd mentioned British operators' inability to work in a team, referring specifically to their tendency to pass on defective items to the next operator if defects are due not to oneself but to previous operators. The Japanese manager at B Electronics also



implied that attitudes, in particular a sense of responsibility, are more important than technical skills in improving quality. According to him, "In Japan, there are overlaps in tasks between workers, so that mistakes are avoided by several people following up the same task or issue from different angles. This overlap is perhaps what responsibility is all about". British workers' attitudes have been changing, but only slowly in his judgement.

At A Electronics Ltd, a Japanese industrial engineer pointed out the British inspection operators' tendency to reject assembled products with faults summarily, thus raising the defect rate and repairing costs. At A Electronics' HQ plant in Japan, by contrast, inspection operators tend to adjust and repair minor faults there and then without rejecting. Moreover, a repair operator is likely to tell the inspection operator what was wrong and what to do next time if she came across similar faults again. Such informal communications across functions was said to be relatively absent at the British-based plant. A Japanese manager at C Electronics GmbH also thought that besides the daily five minute meeting which takes place among the line leader, quality assurance personnel and a production technician, more informal, yet essential, communication about quality and other matters tended to happen less in Germany than in Japan due to less overtime and socializing after work in Germany.

### 5. *Machinery and Production Organisation*

This section considers evidence on differences in the use of machinery among the six plants with respect to the following aspects: (i) the number of machines per employee (or manning levels per machine); (ii) rates and causes of machine breakdowns; (iii) ages and technical sophistication of machinery and equipment; (iv) relationships with equipment suppliers. All these aspects concern the "humanware" (Shimada and MacDuffie, 1986), which highlights the complementarity between capital equipment and labour. Implicit comparisons are made with the corresponding Japanese plants wherever appropriate.

(i) *Manning levels.* – Direct comparisons among all six plants proved impossible due to not all plants having a single common process in which machinery played a major part. But there is strong evidence that manning levels at the British-based plants are higher than at their HQ plants in Japan, and weak evidence that the German-Japanese gap in manning levels is small.

The comparison of the three British-based plants is in the automatic



insertion machine workshop. At A Electronics Ltd, one operator attends one machine, whereas its plant in Japan has an operator looking after up to 5 machines. The difference was not so stark at C Electronics Ltd, which had a manning ratio of 1 operator to 2 machines compared to 1:4 in Japan. B Electronics Ltd had a manning ratio of 1:1 at the time of the interview, although up to 4 machines per operator were considered possible at busy times. The only German-based plant with an auto insertion machine stop, A Electronics GmbH, had a normal manning level of one operator per line, with 3 to 4 machines per lines, which was said to be the same in Japan.

What is different from Japan in all four cases is that in Europe, each machine is self-contained and standalone, while in Japan, insertion or surface mount machines along a line are all inter-connected. A lack of skills in preventive maintenance in-house in Europe was cited as a major reason for this difference.

(ii) *Machine breakdowns.* – Inter-connected machines tend to make it difficult to achieve a high machine utilization rate because a breakdown of one machine affects all other machines in the line. Even without such a problem, machine breakdowns were said to be higher at the British-based plants than at their HQ plants in Japan. At C Electronics Ltd for example, the mean time between failure (MTBF), which is the average time between stoppages, was said to be three times longer in Japan than in Britain. Low maintenance skills and inferior component quality were said to cause more frequent stoppages. Both B Electronics Ltd and C Electronics Ltd pointed out the absence of machine operators and technicians with long lengths of service as in Japan, who have accumulated a better expertise than the machine manufacturers on how to maintain, repair and improve the machines. At A Electronics GmbH, by contrast, the machine utilization rate was judged to be the same as at its HQ plant in Japan, if smaller batch sizes in Germany were taken into account. Interconnecting machines was said to be just a matter of time and experience. However, small batch production contributes to a slower pace of learning.

(iii) *Age and technical sophistication.* – Older machines and newly installed, technically sophisticated machines are more difficult to maintain. There was, however, no major differences in the age, the size, the running speed, nor the technical sophistication of machines used at the European-based and Japanese-based plants. In the case of automatic insertion and surface mount machines, the same Japanese brand of machinery was installed at the British-based and German-based plants as at their HQ plants in Japan. These



machines are relatively standardized, and are already tried and tested at the Japanese plants by the time they are installed in Britain or Germany.

At B Electronics GmbH and C Electronics GmbH, where PCB insertion was sub-contracted out in the Far East, questions were asked about the video cylinder machining shop. The machines were all Japanese made, except for a few Swiss made ones. In fact, some of the machines at B Electronics GmbH had been used, and were handed down, by its HQ plant in Japan. However, both German-based plants showed a strong preference for in-house innovation and joint development with German equipment suppliers. In the case of B Electronics, a Japanese manager proudly pointed out testing jigs and equipment which were developed by German technicians at their initiative; the ease of maintenance and the accumulation of in-house know-how were said to be two important reasons for encouraging such innovation. At C Electronics GmbH, the German production manager saw at one of his regular visits to the HQ plant in Japan that two assembly processes which were difficult to control manually were automated. On his return to Germany, he asked a German equipment supplier nearby to jointly develop two customized machines to automate the processes. They are now running, attended by one operator.

*(iv) Equipment suppliers.* – It is common for users of machinery to prefer to buy locally whenever possible, for ease of repair and service. As pointed out above, the British-based and German-based plants are using predominantly Japanese brand machinery and equipment, mainly because the investment decision is taken by Japanese managers in Europe and Japan. There is an advantage in using Japanese branded machinery, as it is well tried and tested in Japan, and the good relationship the plants in Japan developed over the years with equipment suppliers can be extended to their European subsidiaries.

However, it also has its disadvantages, as Japanese equipment suppliers tend not to have resources to post too many service personnel at their European sales offices. This means that a major machine breakdown is not serviced immediately, and a high level of inventory must be carried to be prepared for a long period of stoppage. Moreover, B Electronics GmbH pointed out that Japanese equipment suppliers tend not to be experienced in installing machinery in Germany, where the health and safety regulation requires various unfamiliar modifications to be made, adding 20 per cent to the equipment price. German equipment suppliers are therefore preferred, as they are located nearby, have more service personnel, and are familiar



with German requirements. None of the British-based plants mentioned the possibility of sourcing equipment from British suppliers.

## 6. *Training, Skills and Qualifications*

The last, and the core, aspect to be examined, which contributes to differences in productivity and quality levels, is education and training, and the resulting skill levels and qualifications of the workforce. This section concentrates on examining differences in the amount, mode, quality and breadth of training provided between the British-based and German-based plants, while making implicit comparison with their HQ plants in Japan where appropriate. As discussed in Section 2, this section will also explore the extent to which skill formation has been affected by external regulation in each country, and by the level of general and technical education attainments. The latter interacts with shopfloor organisation, resulting in varying degrees to which decision-making power is devolved to lower levels of the shopfloor hierarchy, placing a greater or lesser need for problem-solving "intellectual skills" on the part of operators and supervisors (Koike and Inoki, 1987; Koike, 1991). Limits must be noted to gauging this aspect of work organisation in the present research which relies solely on interviews with managers.

As expected, German workers were generally educated to a higher level, while the German-based plants had more technically qualified workers than the British-based plants. The British-based plant more easily adopted a system of internal promotion up to a higher level of shopfloor organisation than the German-based plants which adopted the German qualification-centred job grading system. The findings in more detail will be summarised below, first with respect to the job grading system, and second with respect to training provided to semi-skilled operators, supervisors, and apprentices.

(i) *Job grading systems.* – The job grading systems at the case study plants differed from those at their HQ plants in Japan, which points to the need to adapt to local ways to suit the respective national labour markets. The only exception was C Electronics Ltd which adopted wholesale Japanese HQ grading systems with its finely graded length-of-service and job responsibility related rungs in the payment system. C Electronics Ltd is the least localized of all the plants, with Japanese advisors shadowing various job functions including personnel. In other plants, the personnel function, particularly when it concerns non-management shopfloor workers, was very



much left to local managers. In Germany, this was said to be a necessity because Japanese managers lack the knowledge of German labour law.

In general, the British-based plants have put an emphasis on flatter organisation with little job demarcations; the extreme case is B Electronics Ltd which is said to have 70 per cent of all workers on one grade. The length of service was reflected in pay at A Electronics Ltd and C Electronics Ltd, but not at B Electronics Ltd.

In Germany, the three plants all observe the tariff agreement with IG Metall. This involves evaluating each job in terms of its technical knowledge and organisational responsibility requirements, and working out a one-to-one correspondence between the job, the job grade, and its wage rate. There is therefore no scope for introducing length-of-service related pay in Germany. At C Electronics GmbH, there are 48 jobs to be evaluated by a committee for blue-collar workers alone. However, this does not hinder job rotation as (a) jobs are defined not in terms of demarcated tasks but in terms of technical and organisational competence and responsibility (a point made by Sengenberger (1987) as noted in Section 2), and (b) there is a tacit understanding that the main job is what a worker spends at least 50 per cent of one's time doing.

Another major difference between Britain and Germany emerges when the shopfloor work organisation is compared. In particular, more technically qualified workers and supervisors are directly part of the shopfloor organisation in Germany than in Britain, a contrast also found by Daly et al. (1985). At the three British-based plants, a typical assembly line has three layers of hierarchy. Each line is headed by a supervisor (commonly called a "team leader") whose task is to oversee the overall line workflow and the inter-personal relation of up to 40 operators on the line. A distinction is made between the majority of operators and a handful of experienced operators (variously called "senior members", "leading hands" and "key operators") whose tasks include training of new recruits and relief for absent operators. Typically, supervisors heading assembly lines have been internally promoted from the ranks of operators. B Electronics Ltd is most conspicuous in actively encouraging internal promotion, so that two employees who had started out as ordinary operators were promoted to supervisors and are now production controllers. Moreover, no specialist repairmen exist at B Electronics where repairing to defective products is done increasingly by experienced operators on job rotation.

In Germany, the three plants had four, rather than three, layers of hierarchy specific to an assembly line. Each plant is slightly different, however, in its degree of departure from the German convention. C Electronics



GmbH has the most undiluted German qualification-based system, in which a clear distinction is made between skilled and semi-skilled career tracks. Each assembly line has one line leader, one forewoman, several "jumpers" who can undertake part or all of the tasks on the line, and a few dozen operators. There are also a handful of repair specialists attached to each line, who have the dual apprenticeship qualification in radio, TV and communication electronics. The line leader is responsible for administration, for thinking of improvements to be made, visiting suppliers at times and coping with normal technical and engineering problems, while forewomen are responsible for managing the line flow and taking interest in operators' personal well-being so as to create a good social environment to work in. Operators, who are nearly all female, can be internally promoted up to the forewoman level, but their initial semi-skilled entry status forecloses any chance of their rising higher, as line leaders must have a Meister qualification which in turn requires prior technical dual apprenticeship qualification.

The other two German-based plants have made modifications to the pure qualification-based system, as follows. At B Electronics GmbH, the four ranks are section managers, group leaders, spares, and line workers. The four section managers, each handling an assembly line, are variously qualified as an engineer, a technician, a Meister and a skilled worker. Each line has 6 group leaders, who are expected to possess some expertise in technical matters as well as in interpersonal relations. The 18 group leaders consist of a minority of apprentice-qualified repair specialists on job rotation, and a majority who have been promoted from spares (i.e. those who can carry out multiple tasks on a line).

A different modification is made at A Electronics GmbH to accommodate similarly more flexible internal promotion. Each line is headed by a junior supervisor, who oversees 2 to 3 group leaders, a jumper, and operators. Group leaders and junior supervisors must be Meister qualified. However, a preference for internal promotion had led to the following measures. First, 5 women who were recruited as operators and promoted to jumpers were trained in-house on-the-job in quality assurance, repair, and leadership, and were conferred an in-house Meister qualification upon satisfactory continuous assessment. Second, 3 women who were also recruited as operators received 3 months training by in-house engineers in repairing; upon passing written and oral examinations and a practical test set by A Electronics GmbH, they were promoted to become repair helpers, working alongside ex-apprentices in radio, TV, and communication electronics. The skill and knowledge base of this in-house training programme was said to be much narrower than the Dual System curriculum. Moreover, the in-house



qualifications are of no use outside A Electronics GmbH in German occupational labour markets. However, the flexibility they afford and the accompanying training provide women who might otherwise be stuck in a semi-skilled status for life an opportunity to be promoted.

(ii) *Semi-skilled operators.* — The great bulk of recruits at the six case study plants are for semi-skilled assembly jobs. In both Britain and Germany, the selection method was similar, involving a practical dexterity test, references and school reports, and an interview. The personnel managers interviewed both in Britain and Germany showed a preference for a good age mix, so that some recruits were school leavers while others were mature women in their 30s with children. The initial induction training, health and safety regulations, the product range, and some basic tasks (such as component recognition and soldering) lasts from one day up to 5 days. Thereafter, newly recruited operators are looked after by team leaders and supervisors who provide training on-the-job, and to whose discretion they rotate in a few different tasks during the probationary period of up to one year. A Electronics Ltd has the most formalized system of training every operator in a broad base of skills initially, by insisting that all new recruits acquire competence in at least 3 tasks, which are commonly manual insertion, soldering, and mechanical assembly.

By far the clearest difference between Britain and Germany lies in educational attainments of operators prior to recruitment. In Germany, operators had gone through a 3 to 3.5 year dual system training, typically in sales assistantship, garment making or hairdressing. They were therefore receiving some form of education at least until the age of 18. The dual system qualifications in these occupations were considered as signals for dexterity required in assembly operations.

In Britain, by contrast, operators had typically left school at the age of 16 with barely recognisable qualifications. For instance, only 10 per cent of direct workers at A Electronics Ltd were said to have some educational qualifications of any worth (i.e. at least one CSE with grade 3 or above). Similarly, 4 or 5 CSEs of any grade were said to be a typical educational qualification of recruits at B Electronics Ltd. The British manager at B Electronics Ltd was so appalled by some operators' inability to spell and add up that he started registering a simple literacy and numeracy test as part of the initial selection, while providing remedial education to a few operators at the company's expense.

(iii) *Supervisors.* — Production supervisors, as discussed above, tend to be



internally promoted from among operators more commonly in Britain than in Germany. As supervisors at the plants in Britain are expected not to have technical expertise, training is focused more on leadership and inter-personal relations skills than on engineering skills. The only plant which recently adopted a training programme from its HQ plant in Japan is B Electronics Ltd. This training – TWI (Training Within Industry) – is totally in-house, and uses the English translation of the manuals used at the Japanese plant. Both A Electronics Ltd and C Electronics Ltd have recently started training supervisors and team leaders in supervisory skills, as part of a one year NEBSM course taught by instructors from local Further Education Colleges. The course is continuously assessed, and involves no final examination.

In Germany, as noted before, the plants appointed Meister qualified workers to the position of supervisors. None of the plants have as yet had their employees studying for and passing the Meister examination after recruitment. The Meisters already possess broad-based technical knowledge in the relevant area, and pedagogical skills to train apprentices. Because of the norm that those in supervisory position have technical expertise, internally promoted group leaders at A Electronics GmbH and B Electronics GmbH have been given training in technical matters by internal engineers.

*(iv) Apprentices and long-term trainees.* – Five out of the six plants have apprentices. The plant with no apprentices is A Electronics Ltd, which had two past apprentices who successfully completed the programme in the past, but had all subsequent recruits leave before completion. B Electronics Ltd and C Electronics Ltd both have around 20 long-term trainees, mostly in maintenance skills. The courses last four years and are coordinated by the Engineering Training Association (which superseded the abolished Engineering Industry Training Board). The first year is totally off-the-job while the next 3 years involve on-the-job training with block releases at local FE Colleges. Both plants show a general policy to retain apprentices, although some have left for other employers or to pursue a university degree in engineering.

In Germany, the number of apprentices at the three plants is not so impressive compared with at the British-based plants, but the thorough attention apprentices receive at the company's expense is. A Electronics GmbH, due to its recent establishment date, had 3 apprentices in general office administration only; the personnel manager showed a wish to recruit apprentices in the technical field in the future when enough in-house processes and facilities are installed. Both B Electronics GmbH and C Electronics GmbH had apprentices, 15 and 12 respectively, in both technical and



office administration occupations. The technical occupations were mainly "radio, TV and communication electronics" and also maintenance. The technical apprentices typically spend 4 days at the plant and one day at school. Not much work contribution is expected from apprentices, however, as much off-the-job training takes place in the plant's education room, and because they must study for the school and pass the examinations. At B Electronics GmbH, one engineer with a supplementary trainer qualification from the Chamber of Industry is responsible for educating the technical apprentices. Such a person used to be a Meister, but was changed to an engineer, reflecting the rapid technological change in the electronics field. Training by in-house engineers is also quite common in Japan (Dore and Sako, 1989). At C Electronics GmbH, there is, besides 6 in-house qualified trainers of apprentices, one full-time additional outside trainer, who is a teacher paid by the plant to provide supplementary instruction, for example, by explaining to apprentices what they did not understand at vocational school classes. Training was provided on the expectation that around half would leave upon completion. This, the plants' personnel managers considered acceptable, as "education is always also for the common society, not only for the company".

## 7. *Conclusions*

Since the research reported in this paper is still at an early stage, all conclusions which may be drawn from such a small sample can be no more than tentative. With this proviso, the following summarizes the main findings. First, the productivity and quality differences between Britain and Germany appear to be not as great at Japanese-owned multinational plants as at indigenously owned plants. This may be because decisions over products design and development and process technology are largely controlled at the HQ plants in Japan. Where differences are pronounced are in gaps between quality levels achieved at the British-based and German-based plants on the one hand, and those achieved at their HQ plants in Japan. Inferior quality in Europe is due to a combination of reasons, including small batch production, inferior component quality, and the lack of awareness and accumulation of know-how in maintaining and improving quality.

Second, although the British-German performance gap was not detected from the sample evidence, there are grounds for thinking that the speed of performance improvement may be more rapid at the German-based plants than at the British-based plants. One important reason is the better



qualified workforce in general in Germany than in Britain. Not only are semi-skilled operators better educated in basic numeracy and literacy in Germany; lower-level supervisors are better trained and qualified in technological matters, thus enabling them to deal with technical as well as managerial problems at source quickly. This pattern in which supervisors and some blue-collar workers possess sufficient engineering knowledge to solve problems approximates the situation in a typical shopfloor in large Japanese firms. The advantage in productive efficiency of this work organisation, as compared to an organisation in which the technically qualified staff is more scarce and centralized appears obvious.

A related reason is the clear-cut external regulation concerning training in Germany, which forces Japanese plants to conform to the German mode of training in order to remain good corporate citizens. By contrast, British-based Japanese plants would not be able to fully reverse the erosion in British apprenticeship, particularly as Japanese plants require skills in consumer electronics which no British-owned companies require any longer.

Yet another factor is the availability of local equipment and machinery suppliers which Japanese plants would wish to use in Germany and their relative absence in Britain. The ease of maintenance and the speed of response in repairing in Germany would enable a lower holding of inventories at German-based plants than at British-based plants.

These are some of the reasons which may reinforce the location decisions of Japanese multinational companies in the future, with Britain being chosen mainly for its low labour costs and Germany for the availability of technical manpower for design and development as well as for process innovation.

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## METODI DI ADDESTRAMENTO NELLE IMPRESE GIAPPONESI, BRITANNICHE E TEDESCHE

Questo articolo illustra i risultati di una ricerca sistematica sui metodi di addestramento e i loro effetti sulla performance nelle fabbriche giapponesi di elettronica con sede in Gran Bretagna e Germania. Le questioni importanti sono: come si adeguano i metodi di addestramento propri delle imprese giapponesi ai sistemi di addestramento dei paesi ospitanti? Le differenze in questi metodi e la competenza accumulata dei lavoratori britannici e tedeschi si riflettono sulle differenze di performance a livello di fabbrica? È risultato che le fabbriche giapponesi modificano i loro metodi di addestramento per adattarsi a situazioni locali nazionali (per es. usando apprendisti e qualifiche vocationali), ma in modo da non pregiudicare la loro fondamentale preferenza per l'addestramento sul lavoro e per le promozioni interne. Non è stato identificato nessun chiaro legame tra addestramento e performance a livello di fabbrica. Questo è attribuito, in via di ipotesi, alle decisioni manageriali relativamente alla scelta del luogo, al disegno del prodotto e all'ingegneria del processo che in Giappone sono ancora condotti ad un livello di alta qualità.



CAN THE WEST COMPETE WITH JAPAN?  
It Can by Applying a Differentiated Protectionism  
as a Function of Orgware

by  
GIANNI FODELLA \*

Since the Sixties, the world economic order shaped in the early post-war years has gradually revealed features that are very distinct from those that characterized it during the first half of the century.

Three main factors have contributed to this epochal change:

1) the growing availability of primary industry goods at decreasing prices and the ever-diminishing contents of raw materials and energy in products and services. Such a *de-materialization*, coupled with the increased accessibility to raw materials has damaged the relative position of all primary goods producers and exporters; on the other hand the dependency from imported raw materials for transforming economies like that of Japan has diminished. For example, during the high growth period of the Sixties Japan's imports of raw materials (excluding energy) equalled 3% of GNP, in the Eighties they had fallen to just 1.6% of GNP. Japan's consumption of imported energy has fallen in the same period from nearly 7% of GNP to below 5%. Also conservation and industrial re-structuring are responsible of such a change, but *de-materialization* plays an important role: in 1984 Japan used only 60% as much raw materials per unit of manufacturing output as it did in 1973;

2) the introduction of microelectronics in production processes has contributed to discourage direct foreign investments in the less developed countries. The application of microelectronics has enabled companies belonging to industries once labelled as "mature" to remain in the developed

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countries, and has deprived the developing countries of a flow of capital from the direct foreign investments in manufacturing induced by the low cost of labour;

3) the availability of technology through the purchase of patents or licensing. This has reduced the importance of technological monopolies giving the most dynamic *technology takers* an advantage over the *technology makers*, who were not as able to fully exploit their own technological innovations.

These three factors contributed to shift foreign direct investments from the least developed countries to the more developed or promising economies and gave an evergrowing weight to foreign investments in services. It is a framework that has favoured the more agile transforming economies of France, Germany, Italy, Japan, Korea, Singapore, Taiwan, to name just a few, all *technology takers* that in addition are heavily dependent on imports of raw materials, but that were able to respond with greater vitality than *technology makers* like the United States or the United Kingdom to a challenging situation and even to severe constraints like the one caused by the energy crises of the Seventies. This new reality could hardly be imagined over twenty years ago.

As a consequence we can detect in the world six areas with different speeds of economic growth, three of them highly promising (Eastasia), or already developed (Europe, North America with Oceania and South Africa) and three less developed (South and West Asia with North Africa) or declining (Latin America, Sub-Saharan Africa) with a widening gap between the former and the latter group.

If we consider the dynamics that characterized foreign trade, we can easily see that during the Sixties, Seventies and Eighties while the percentage of US exports on world exports declined, that of Europe remained stable while those of all East Asian and of some South-East Asian countries almost doubled.

More precisely Eastasia – a cultural rather than a geographical concept defining the area dominated or strongly influenced by Chinese civilisation, or where live important minorities of Chinese origin, that includes China (with Taiwan, Hong Kong, Macao), Japan, Korea (South and North), Vietnam, Thailand, Malaysia with Singapore and Brunei, Indonesia – has seen its share of world exports grow from 9% in 1950, to 11% in 1970 and to 21% in 1990. At the same time the share of the less developed countries was halved, from over 30% to less than 15% during the same period, while that of the developed Western economies remained almost stable showing a slight increase in Europe and a slight decrease in North America. Further-



more the gap between the already developed and the highly promising economies on one side, and the less developed countries on the other, in terms of overall economic performance, has considerably widened, while it has been shrinking between Europe and North America.

In a classical work (Denison, 1967) the 1960 situation of some of the most developed among the European economies (Italy was not included) was considered equivalent and was therefore compared to that of the United States of 1925. Even if the per-capita income levels and standards of living of 1925 USA were roughly similar to those of 1960 Europe, the growth rates were higher in Europe than in the United States. As a result of such a different dynamics in the 30 years 1960-1990 a 35-year gap (1925-1960) has been filled, since today the income levels in the United States and in Europe are almost equal, if not in dollar terms at least in comparable welfare or in purchasing power terms.

The growth rates have since then continued to be higher in Europe than in the United States. In the 24 years from 1965 to 1988 for example, the average annual growth rate of real GNP per-capita grew 3.5% in Norway, 3.4% in Yugoslavia, 3.2% in Finland, 3.1% in Portugal, 3% in Italy, 2.9% in Austria and Greece, 2.5% in Belgium, France and West Germany, but 1.6% in the United States and 4.3% in Japan.

In 1965 the GDP of the United States was 701 billion dollars, that of the European Community (12 members) was 457 billion dollars (65% of the US) and that of Japan 91 billion dollars (13% of the US). In 1988 the figures had respectively become 4847, 4614 (95% of the US) and 2844 (59% of the US) (The World Bank, 1990). In 1990 the European Community GDP, including the 12 member countries plus the 13th "hidden member" (East Germany), has overcome that of the United States while Japan has considerably reduced its gap with them. Among the developed countries Japan's economy has undoubtedly been the most surprising, although the extremely brilliant performance of China (with Taiwan and Hong Kong), Korea, Singapore and other Eastasian economic systems, should not be overlooked.

American GDP grew, between 1965 and 1988, about sevenfold and that of 12-country Europe tenfold, in dollar terms using current exchange rates, but Japan's GDP grew over 31 times and that of South Korea over 57 times. China, Taiwan, Hong Kong, Singapore, Indonesia, Thailand and Malaysia also experienced in 1965-88 real GNP per-capita rates of growth equalling or exceeding an annual average of 4%. Even the most dynamic European economies did not approach the performance of Eastasia as a whole. Europe has been able to grow at a pace quicker than that of the



United States, but slower than that of the "magnificent seven" of Eastasia.

Although the future is not to be assumed as a simple extrapolation of the past, it might be relevant to investigate the reasons behind the trend that developed in order to see what Europe and America may have to do in order to deal with such an economic challenge effectively. For example, the reasons behind Japan's ability to thoroughly diffuse within the companies of its economic system the technology produced in Japan and elsewhere, in making accessible to its companies the world natural resources they need, in managing its monetary and exchange-rate policy and its long-term industrial and trade strategy, imply not only the adoption of highly efficient policies at country level, at industry level and at company level, but also the operating of an *orgware* (the structural organization that stems out of the institutions, rules/laws that define them, actual behaviours and their reciprocal interactions together with a particular time horizon that characterize the agents of an economic system) of far superior quality than that of Europe or the United States. The high quality of *orgware* seems to be a common feature not only of Japan but also of Eastasia as a whole and it might be necessary to spend a few words on it.

After the decline of the economic power of the British Empire, the economic system economic theory used to refer to became that of the United States. When the United States became the most powerful economic system of the world it had by definition no external threats to fear and its only problem was to preserve rather than to protect its own system through the *rules of the game* that it had inherited from Britain.

These rules were essentially concerned with the mechanisms of competition within a free-trade framework and were aimed at protecting both citizens (as consumers) and entrepreneurs (as producers) from the power of domestic monopolies, the only visible menace to overall welfare and to a healthy competition among companies.

Being the institutions, rules and behaviours almost identical in the British and American economic systems, there were no reasons to consider *orgware* as an element deserving a special interest or attention when dealing with competitiveness or other aspects peculiar to the economic system.

In other words all companies were rightly considered to be competing on an equal footing, since each developed economic system was based more or less on the same type of structural organization. On the other hand companies belonging to less developed economic systems had the "advantage" of reduced labour costs to balance other shortcomings that might characterize their own economic systems, and in any case such companies



were not on the world top list, since the most competitive companies belonged to the Western world.

In the last few years, however, with Japan and also increasingly with Korea, we have experienced a different situation. Not all companies competing in the world market come from economic systems that have the same type of institutions, rules and behaviours of the Western world and we have begun to suspect that the structural organization of the country system may positively affect their competitiveness, and not only their style of behaviour. Although the word *orgware*, or another equivalent expression, has not been used with the meaning attributed by this author, companies have become increasingly sensitive about their social and economic environment, realizing sometime confusedly that something more than external economies might be at stake in enabling them to compete in the market arena.

Perhaps *orgware*, although ignored or disregarded, has always been important and, for example, the causes of underdevelopment might have their roots there. But so far economic theory has failed to recognize even its existence. This problem requires investigation that goes beyond the scope of this paper but this author would like to use this conceptual framework as a tool in investigating the competing ability of Japan and Eastasia in a comparative perspective.

If we consider Japan we can see that in the 1950s it was largely ignored by the major industrial countries of Western Europe and North America. It was thought to be an unimportant country, forced by military defeat to play but a marginal role in world affairs. As a producer of manufactured goods it was widely considered to be destined to reproduce foreign goods and to export cheap, low quality, industrial products.

In the 1960s Japan's near miraculous economic growth was generally attributed to the low wages paid to Japanese industrial workers. As a product of cheap labour, Japanese industrial growth was generally believed to be based on social dumping and thus probably short-lived.

In the 1970s, when Japanese growth rates, though smaller than in the previous decades, remained much higher than in the other major industrial nations, the prevailing expectation was that soon the Japanese people would start enjoying life like everybody else and stop being so productive and thrifty. Wages were increasing in Japan and living conditions were improving rapidly. Yet Japan was still competitive with the rest of the world in manufactures and services, notwithstanding the continuous revaluations of the yen, due in large part to a sustained current account surplus. The popular explanation of Japan's continuing success then became 'Japan Incorporated', a kind of unholy alliance between the private sector and gov-



ernment aimed at fostering production and exports, made possible by the acquiescence of labour.

In the 1980s, the appeal of 'Japan Inc.' also waned, and no other explanation of the success of Japan found acceptance. The general conclusion in the West seemed then to be that Japan had become invincible, and companies, both from America and from Europe, became even more eager to establish ties with Japan.

The most innovative Western firms, for example, left to Japanese firms the production and especially the commercialization of new products that they did not feel confident enough to market by themselves. Many Western government authorities (including many state governments in the United States) sought direct investments from Japan, offering all kinds of incentives for the location of productive enterprises within their jurisdictions. Western firms in increasing numbers sought joint ventures with Japanese firms to produce in and for the Western markets.

European but also American companies tend to export to Japan by making use of Japanese general trading companies, which control almost two thirds of Japanese imports and develop the local market according to their strategies, which do not always coincide with the interests of the foreign company of which they market the products in Japan.

The main trading companies are part of informal groups of companies (*keiretsu*) that have continued to exist even after the formal dissolution of pre-war financial cliques (*zaibatsu*). This fact helps the well-known and well-practiced capacity of Japan to substitute efficient domestic production for imports. Every time a foreign product attracts a growing number of Japanese consumers, local companies are ready and able to produce it for the domestic market (in general under license), usually adapting it specifically to Japanese consumers. Advertising and packaging of the product are part of this process of adaptation to the domestic market. This type of import substitution does not stem from government policies, but from a spontaneous reaction of the market. This helps to explain why, while foreign trademarks are increasing in number in the Japanese market, there is no corresponding increase in imports.

Foreign products have traditionally been considered expensive in Japan, something made for special occasions and not for daily use. Although this attitude is changing, it is still deeply rooted. The consumption of wine and of whiskey, for example, is expanding in Japan, but this new demand has been met by increased supply of domestic products, rather than by imports. Japanese consumers also feel more confident with products fabricated in Japan. This is not a problem of quality, but of acceptance. In some



cases, the traditional quality problem has been reversed. For example, Japanese producers of Italian-type *pasta* claim their product is better than that produced in Italy and, while this seems unlikely, it has increased acceptance of the product.

No doubt Japanese consumers may often believe that locally produced goods are better than equivalent foreign products, for they are proud and sure of the manufacturing ability of their country, which is proving superior to that of all other countries in many areas, but very often the domestically sold product is of a poorer quality than the equivalent product marketed abroad.

The low volume of imports of manufactured goods in Japan can also be due in part to the internal distribution system which does not favour foreign products. Foreign firms do not offer wholesalers and retailers the same benefits (such as credit) and guarantees (such as stability of supply and service) offered by local producers. Yet, it would be misleading to see in this a major reason for the poor performance of foreign exports in Japan. Some responsibility lies in the foreign companies themselves, which often rely on Japanese general trading companies to enter the local market, without realizing that this approach may be appropriate only when the targeted market is seen as a marginal one. The Japanese general trading companies, especially when they belong to a group that represents Japanese manufacturers of products similar to the foreign ones, may lack the incentive to aggressively push the sales of foreign-made products that could directly or indirectly displace products manufactured within the group (formal or informal) to which they belong.

Japan in the 1930s was still a relatively small exporter of manufactured goods, never accounting for more than 4 per cent of total world trade. Its sudden emergence on the world scene was not due to low wages (wages had always been low), but to gains in productivity. The new circumstances which strengthened Japan's competitive abilities "were the market gains in technical efficiency and business organization achieved through the decade 1926-36 and the violent dislocation of costs, prices and exchange rates precipitated by the Great Depression" (Lockwood, 1968, p. 68).

In the 1990s Japan is no longer a new entrant, willing to transfer to foreign consumers the benefits of currency depreciations, tied to the export of cheap manufactures and shying away from direct investments outside Asia. Japan has become an established industrial power, willing to assert some of its weight in the world. With a greater market power – almost one tenth of world exports – maintained compatible with a strong national currency that dredges resources from foreign countries, Japan's weight in



world trade and investments, and gains drawn from this participation in the world economy, are far greater than the simple market shares indicate. The situation today is sharply different from that of the 1930s, when an investment-shy and weak-currency Japan provided cheap exports to the rest of the world, largely to the benefit of foreign consumers.

Today the resources drawn by the strong yen flow generously towards Japan, while the growth of Japanese exports frightens the United States and the EC in ways that are strongly reminiscent of the 1930s.

The near hysteria aroused by Japanese trade surpluses in the United States (accompanied for the first time in 1991 by a net inflow of capital towards Japan) and the more muted, but nonetheless critically important, European preoccupations with further possible Japanese penetration of EC markets after 1992 – from automobiles to financial services – if they appear consistent with reality they appear to be unjustified on the basis of traditional factors. The yen is hardly undervalued. Japanese wages are not those of a labour-rich developing country. Japanese tariff, and probably also non-tariff, barriers do not seem to be significantly higher than those of the other main industrial countries.

What, then, is the secret of Japan's continuing trade expansion and the reason for the strongly protectionist response of the main trade partners to Japan's success in trade? The 'secrets' of Japan's industrial success are many. Rationalization of industrial output, within the framework of a superior structural organization, which allows a thorough diffusion of technology in the economic system, is a primary one, while fast growth of labour productivity is another.

Japan uses trade and industrial policies in a way markedly different from its main industrial competitors. Trade policies in the United States and trade and industrial policies in Europe are mostly directed at protecting declining industries. They are, in other words, defensive and *status quo* oriented. Japan, on the other hand, encourages by all means the growth of the most promising industries, while reducing at the same time the weight of declining ones.

Japan, moreover, is rather protective of the technologies developed by its companies and is probably the country that offers the least access to the results of its own technological research. On the contrary, many Japanese companies obtain licenses for the use of advanced technology produced by foreign companies, often at bargain prices. Research institutions as well as private researchers do not generally consider the potential damage to the competitiveness of their countries done by the sale of licenses to overseas producers. In the West the interest of the individual company, researcher,



consultant, etc. comes first, not that of the economic system. One of Japan's assets lies in the ability to diffuse the technology that Japan has gained. Very often Japan has been able to fill a technology gap in a particular field:

- by sending to the most advanced countries promising young people (not only students) ready to learn and bring home the results of their learning;

- by offering attractive contracts to young foreign experts who, though not yet well known in their own countries, have valuable knowledge in their fields;

- by hiring as consultants promising researchers in fields of special interest, or buying, in full or in part, innovative foreign companies endowed with efficient research structures. It is a style that allows to acquire at the same time two products difficult to create (the know-how and a share in a previously unknown market) but that are nevertheless for sale. While Japan's ability in marketing and in manpower strategy, added to its financial might, are not for sale. They could only be created thanks to the quality of Japan's *orgware*.

Joint ventures are a particularly useful vehicle for acquiring technology. In general, after a few years, the joint ventures with Japanese partners dissolve, since the Japanese partner either has grown too strong or has learned enough not to need its foreign counterpart any longer.

In entire sectors and industries where Western technological leadership (for example, home electronics, personal computers, optical equipment, automobiles) was the rule, Japan has in recent years eroded the position of both the North American and the European companies.

This is explained in part by the remarkable increase in R&D outlays that occurred in Japan. Today R&D expenditures are five times greater in Japan than in the United Kingdom, three times greater than in France and Germany, and one-third greater than in the Soviet Union. This indicator, though generally unsatisfactory in explaining technological diffusion – the only aspect of technology that matters in economic terms – is quite appropriate in this case since Japan devotes resources specifically to “development”, and therefore also to the diffusion of technology. The fact that Japan is the main world buyer of foreign consultancies also contributes to the same final result.

Paramount in permitting the *diffusion of technology* in the most important sectors of the economy have been the institutions, rules and behaviours, and their reciprocal interactions, that form the *orgware* of Japan. The very key to economic success is to be found in having equipped with the most



efficient technologies the greatest part of the productive units belonging to the most important industries of the Japanese economic system.

In certain cases the diffusion has required *hardware*, material and financial resources, or more skilled labour that had to be formed (again using resources and precious time). In other cases the increase in efficiency has come solely or almost exclusively from a better way of making things happen following a pattern devised to increase efficiency, a blend of *orgware* and of *software* (technology and management).

If in an economic system like that of Japan communication networks (from rail to mail, from telex to fax) work well, it is easier for companies to be punctual in their deliveries. If all companies are punctual it is not necessary to stock spare parts in large numbers or may not be necessary at all, as it happens with the JIT (just-in-time) system of production. Thus costs are reduced and, all other conditions being equal, competitiveness is enhanced.

If we consider another element of competitiveness, the cost of capital, *orgware* plays an important role here too, since borrowing and lending rates may have huge differentials (like in the case of Italy) or be less apart (like in the case of Japan).

The strategy of Japan seems to be moving from direct exports of goods totally produced domestically (still prevailing in most instances, but heavily exposed to the danger of protectionism), to the overseas assembling of parts produced in Japan (the so-called screwdriver factories, well represented by typewriter and motorbike factories), to total overseas production of industrial goods on a project basis, often considered by Japanese firms as necessary to serve markets that are differentiated in needs and tastes.

This strategy is being pursued for at least two good reasons:

– economies of scale are possible even with less than gigantic units of production. This makes decentralization possible and even desirable purely from the point of view of private costs. This trend is also desirable in order to reduce the social costs caused by the increased congestion of most urbanized areas and to contain social overhead expenditure for transportation and other networks;

– large scales remain important in the marketing phase, since the success of a brand is often strongly correlated to market power, exemplified by the image attainable only through massive advertisements or to the type of market presence possible only for firms operating on a worldwide scale.

Mergers and acquisition of foreign firms have also become widespread in recent years, favoured by the appreciation of the yen, which renders foreign assets relatively more attractive to Japanese firms. Japanese firms



have in this way acquired existing firms in Europe and the United States. While the big acquisitions actually completed – Firestone Tire and Rubber acquired by Bridgestone – or attempted – Fairchild Industries bought by Fujitsu – attract the most attention, this important new facet of Japanese foreign investment is best exemplified by the acquisition of small and medium-size companies operating in sectors or industries such as electronics, specialty manufactures and computer software, that do not result in big news but that enhance the competing ability of Japan in many new fields, paving the way to incremental or even breakthrough innovations.

A large, efficient and relatively isolated economic system – like that of the United States at the beginning of this century – needed protection from within. Protection from the overwhelming power of monopolies in industry, trade, services that would penalize both new initiatives and the ordinary citizens seen as consumers. The antimonopolistic legislation that was passed is still in force after a century, but the situation at world level has dramatically changed and now the USA needs protection from the outside, since it has ceased to be by far the most important industrial country of the world as it used to be.

Japan, where after the defeat in the Pacific war a Fair Trade Commission was established in order to prevent the resurgence of monopolies, did not consider the protection of consumers as a priority and acted accordingly giving more attention and protection to the national producers, with the result that they were able to establish perhaps the most efficient economic system on earth, one that does not need any longer protection from the outside and can now embrace free trade in earnest: a change that Japan is now ready to adopt in order to avoid blame and protectionist actions from the part of its partners. On the contrary the USA may be compelled to adopt a more matter-of-fact attitude towards monopolies and free trade in order to cope with the challenge coming from Japan today and from the rest of Eastasia tomorrow.

Whenever institutions, rules and behaviours reciprocally contradict themselves or do not match the actual needs of the economic system in any given moment, the efficiency of the economic system decreases in terms of less-than-potential rates of growth, or in terms of bottlenecks or imbalances that the ill-performing *orgware* causes in the economic system. When names do not correspond any longer to things, and institutions to the words that define them, society decays, observed Confucius that used for *reform* the expression *zhèng míng* or *name rectification*.

Economists used to point to terms of trade as a source of inequality among economic systems exporting mainly primary products or manufac-



tures. Today many developed economies export products of the primary sector and almost all developing countries also export manufactured goods (even if they may often do so as subcontractors for companies of the developed countries). The attention must be shifted from terms of trade to exchange rates, keeping in mind that it is always possible to manage one's exchange rate when the country has a surplus, enjoys credit and can afford to borrow. This is not possible when a country runs a deficit, unless it is for a short period. It is not the level of debt that matters, but how the financial resources are being used.

Once more the problem of development shows the importance of the qualitative aspects. Since it is difficult, not to say impossible, to measure them, economists tend to ignore them, concentrating on the quantitative aspects only. It is time to reconsider this approach that has led to the misuse and waste of resources because the qualitative aspects, those pertaining to *orgware*, had been overlooked.

The fact that in the Euro-American world a contractual type of relationship prevails among companies, while in Japan relations between companies are often based on mutual trust, on confidence rather than on contract, has led us to suspect that this may change the time horizon of the company and its perspective to such an extent as to become a serious factor of differentiation also in terms of competing ability.

The Japanese economic system did not, in the past, observe the *rules of the game* set at world level by the West, but so far all efforts to prove that this is continuing have failed. It is also possible – and indeed likely – that, although Japan may be trying to follow these rules, under labels familiar to the West operates a quite distinct reality giving origin to an *orgware* that supplies the economic system with a more efficient basis for the operation of its companies.

Ron Dore points out that mutual trust, sincerity and goodwill are the basis of the *relational contracting* that prevails in Japan, rather than of the *spot-contracting* that prevails in the West. "There are some good reasons – writes Dore – for thinking that it might be *because of*, and not *in spite of* relational contracting that Japan has a better growth performance than the rest of us" (Dore, 1987, p. 174-192).

After the difficult post-war years (1946-64) Japan's GDP ranked fifth after USA, USSR, West Germany and France. During the easy years of economic prosperity (1968-86) it ranked second and the world was shocked when the average income of the Japanese became higher than that of the Americans: 17,000 dollars a year compared with 16,000 (*The Economist*, October 25, 1986, pp. 15-16). During the decade after the years of triumph



(1989-98), thanks to the yen/dollar exchange rate and to the differentials in growth rates, Japan's GDP might even become equal, in dollar terms, to that of the United States. That result will have to be attributed to the ability of diffusing technology and marketing technological products as factors responsible of a high speed economic growth. Although in both these abilities, largely due to the quality of its *orgware*, Japan's excellency is well known, there is more to it.

It is important to analyze and to understand fully the reasons for Japanese competitiveness, not only as an intellectual exercise, but also as a necessary condition for appropriate policy responses by Europe (and the United States) to a vital challenge coming from Japan and the other NIEs of Asia. The challenge is no more and no less than the transfer of the centre of gravity of the world industrial power from the West to Eastasia.

It is therefore extremely important that a problem of such relevance be discussed, debated and properly understood both in America and in Europe. In America, the official tendency to single out Japan as the most deviant trading partner, and to force it to make bilateral concessions usually with final disastrous effects for the United States, not only threatens the foundation of the world multilateral trading system, but also limits the range of policy responses to the trade and other macroeconomic imbalances that exist between the two countries. In the EC, the general policy response to the Japanese challenge in manufactures, banking and insurance services will likely shape the overall trade and industrial policy posture of post-1992 Europe.

What is needed is a better understanding of both the strengths and weaknesses of Japan's economy, of the available policy response options, both competitive and collaborative, and of the time horizons within which results can reasonably be expected. There are certainly areas where competition with Japan is inevitable. But there are for sure areas where cooperation is mutually profitable, either now or in the future. Japan bashing, as well as "if you can't beat 'em, join 'em" types of responses – the first strong at the government level, the second at the firm level – are equally inappropriate in isolation. The illusion of beating back Japan by resorting to confrontation on a large scale is probably as dangerous as that of Japan's invincibility, with the inevitable corollary of unequal cooperation. Both approaches inevitably foster delusions, based on results that fall short of expectations, and lead to collisions whose effects may not be controllable, with devastating consequences on world welfare.

Rationalization of production, adoption and thorough diffusion of the latest technologies, together with outstanding marketing abilities, made Ja-



pan one of the most efficient exporters of manufactured products in the world. As time goes by Japan is increasingly sharing this performance with other Eastasian economies, and the West will have to take this into consideration when envisaging measures capable of dealing with the mounting competing pressure from Eastasia now mainly, if not solely, represented by Japan, Korea and Taiwan.

To recognize the existence of *orgware* would allow Europe and the United States to adopt a *differentiated protectionism* as a substitute for free trade. Free-trade is an ideology based on the Darwinistic principle of the "survival of the fittest" that has proven to be instrumental in preserving an economic order favourable mainly to the dominating powers, and that has been unable to solve or even direct toward solution the problem of inequality among economic systems, as the growing distance in the economic conditions of countries shows.

Free-trade has accentuated existing trends making richer the rich and poorer the poor. Only those countries that have not applied free-trade to their own case (like Japan, Korea, Taiwan), but that have taken advantage of the free-trade practiced by others, have been able – when assisted by an *orgware* of high quality – to break that vicious circle and have succeeded in developing their economies. Only the very strong can afford free-trade, and Japan is now ready to apply it, while the rest of the world (with few exceptions like Germany) is no longer able to afford it.

Japanese companies succeeded in competing because their economic system helped them in that direction. American companies did not need any help to succeed, but times were different and the situation has changed. The United States might eventually be forced by Japan to become a more redoubtable competitor in the market arena. But such a path so far has beaten wrong tracks. The joint-ventures with Japanese companies have caused a substantial technology transfer. Many American firms in difficulty have been "saved" by Japanese companies that bought them in full or in part. The Japanese are creating manufacturing facilities in the United States making use of methods that have successfully been experimented at home. Those companies may be a revitalizing addition to the American industrial scene as some claim. But may also threaten it, since the appearance of more efficient companies (solely Japanese or joint ventures) may compel the least efficient (solely American companies) to leave and as a consequence discard capital and destroy jobs.

Japanese foreign direct investments are welcome, but should they not be reciprocated the market power of Japanese companies (and of Japan) will grow to control larger and larger shares of world production. A perspective



worse than that of having Japan controlling large portions of exports, since exports can be checked and are more vulnerable than production made domestically with foreign capital.

Many American companies have already recognized the strength of the Japanese economy by becoming their devout customers, while the suppliers of Japan still in American hands decrease every day in number and importance while increase those totally or partially owned by Japan.

American companies are often lured by Japan into joint-ventures that often lead to nothing, except for the experience gained that allows the partner from Japan to save time and money before replacing the less efficient partner.

But there is an unbeaten track more likely to be taken perhaps by Europe than by America. That of co-operation in third countries. But since parity is a concept difficult to be understood in Eastasia – perhaps because it seldom exists in reality – true cooperation is rare.

At this stage however it seems difficult to find solutions that may reverse the trend. Whatever action is taken it results in a strengthening of the Japanese side.

The quality of *orgware*, the dimensions of the market, the educational level of the labour force and the experience in using the resources with the appropriate methods and technologies make the Japanese system unbeatable, and Japan is only the tip of an iceberg called Eastasia.

This is the reality we have to recognize and face.

As a consequence we have either to create a barrier to control that system in order not to be dominated by it, or accept the rule of “the survival of the fittest” even when the “fittest” is not in the West, and a Darwinistic approach is out of data since we created the welfare state, and social market economy (*Soziale Marktwirtschaft*) rather than “pure” capitalism is the rule in Europe.

If we have to seek protection from a system that combines an advanced stage of economic growth with a high quality of *orgware*, we have to accept at the same time the protection that other less fortunate economic systems in Africa, Asia and Latin America are seeking against us.

The world is not made of equals and we have to devise some discriminating tools to be used as handicaps that guarantee equality of development opportunities, to the strong (discriminated against) and to the weak (that can discriminate others) alike.

The cumulative experience of Europe – where market forces have operated under social control, or where the market had but a marginal role – might be more favourably biased toward a *differentiated protectionism*



where the weak are protected and the strong are kept under control rather than toward a Darwinistic approach which still seems to be dominant in the United States.

A *differentiated protectionism* might be worth a try since it would operate in favour of those economic systems where both the low level of economic conditions and the poor quality of *orgware* indicate the relative disadvantage of the economic systems having these characteristics, and might do what so far the invisible hand has been unable to.

Data and projections seem to indicate that Europe and America will not match the competing power of Japan and of Eastasia as a whole. The reasons seem to lie not so much in unfair practices, but rather in the different behaviour of the various components of the economic system. While in Eastasia the reasons of the group seem to prevail, in the West the interests of individuals seem paramount.

It is a conflicting *Weltanschauung* that is compelling economists to think and eventually recognize that the *rules of the game* on which we have geared the operating of the economic systems might not be universal, and to admit that they have not been very efficient in making world welfare grow evenly.

The invisible hand has operated – to say the least – below capacity, and companies competing in the market arena have discovered that their international efficiency was influenced by something more than management and externalities.

Japan could base its economic growth on policies that systematically disregarded the *rules of the game* set by the West, and by so doing succeeded in becoming the most competitive economic system in the world.

Today Japan (and Eastasia as a whole tomorrow) is ready to be a flagbearer of free trade and may be able to practice it more fully than Europe or the United States. However, it might be time to recognize that better tools are needed and may be devised, after having experienced the traditional ones, if we really want to avoid that the strong become stronger and the weak weaker: a law of nature that human beings are trying to mend in order to build a less wild world.

To match the challenge of Eastasia we should have to train human resources in Europe like Eastasians have done in the past century. We should learn about them what they have been learning about us, breaking our Euro-centered educational system.

This may sound utopian but we should at least include in education curricula some elements that could break their exclusively Euro-centered nature. First by teaching Chinese and Japanese at University level as tools



for reading the literature relevant to one's own specialization, so that an increasing number of graduates in all disciplines might be able to approach the Eastasian world without intermediaries. The linguistic training should be supplemented and integrated by appropriate guided readings aimed at introducing the main cultural features of Eastasian societies.

So far we have formed a few hundred specialists every year, but this is not enough to match the imbalance and the knowledge gap that characterizes today's Euro-Asian relations. Our ignorance of Eastasia weighs heavily and is reflected in often ineffective or even self-defeating policy moves.

If a good number of European economists had a non-superficial knowledge of Eastasia even their insight about Europe's economic systems would be enhanced, and might originate policies not only devised to face the Eastasian economic challenge effectively, but also appropriate at improving the world economic conditions in a long-term perspective. An appreciated by-product of a demanding but also highly rewarding effort.

In conclusion, the growth trends indicate that Europe – where life conditions of 1925 United States were similar to those prevailing in economically developed Europe of 1960 – has now reached the United States in terms of real income per-capita, while it is losing ground vis-à-vis Japan. This fact is particularly visible if one considers the postwar trend characterizing world exports: United States share has diminished, Europe's has remained stable, while Japan's has increased enormously, well overcoming the peak results of imperial Japan of the pre-war period.

Protection of the domestic market, an agricultural policy based on a successful land reform, industrial and trade policies geared to a favourable international environment that made Japan the main supplier in the Korea and Vietnam wars, allowed it also to take advantage of the low cost of raw materials and energy, to diffuse the technology produced elsewhere within the companies of its own economic system, to benefit from the free-trade atmosphere of its main partners. Japan's institutions also operated in favour of economic growth to the extent that Japan was seen as a "developmental state".

All this however is not sufficient to explain the economic success of Japan, since the various elements listed above were present also in other economic systems, but their combined efficiency was below that shown by Japan. The outstanding Japanese efficiency may stem out of an *orgware* of a higher quality ultimately responsible for the better performance of the Japanese economy. Although the economic standards are similar in Europe and in Japan, being the quality of *orgware* different, Europe cannot compete on an equal footing with Japan.



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## PUÒ L'OCCIDENTE COMPETERE CON IL GIAPPONE?

Sull'esempio della *performance* economica giapponese, questo articolo cerca di dimostrare l'importanza dell'*orgware* – l'organizzazione strutturale consistente di istituzioni, regole e leggi che le definiscono, e comportamenti reali – che caratterizza un sistema economico e spiega come l'*orgware* influenzi l'efficienza di ogni agente economico, mentre la sua natura e qualità influenza la capacità competitiva delle imprese e del sistema economico in generale.

Date le differenze di *orgware* i sistemi economici non competono in posizione di eguaglianza e il libero mercato indiscriminato non fa che perpetuarne la disuguaglianza. Un rimedio potrebbe essere un *protezionismo differenziato* che darebbe un differente handicap ad ogni sistema economico secondo il suo livello di sviluppo economico e la sua qualità di *orgware*.



## RECENSIONI (BOOK-REVIEWS)

FODELLA Gianni, *Fattore orgware - La sfida economica dell'Est-Asia*. Milano, Garzanti, 1993, pp. 140, L. 25.000.

We are living in a period when natural resources are relatively plentiful and can easily be procured, and at the same time we are witness to the dematerialization of products and the possibility of using the technology available, wherever it has been created. But in this situation the economic systems which are growing most rapidly are certainly not those that possess the raw materials – in general Third or Fourth World countries – nor are they the countries in which the premises exist for the most advanced technologies to be studied and perfected – Europe and the United States – but it can be noted that the economic systems which are growing most rapidly at present, such as the East Asian nations, have neither raw materials nor do they carry out fundamental research, but they possess particularly capable and efficient human resources.

But what are the reasons for these excellent economic results? What characterizes in particular this economic system? What is meant by the term East Asia?

Gianni Fodella has taken these premises as his starting-point in his recent work *Fattore Orgware - La sfida economica dell'Est Asia (Orgware - The Economic Challenge of East Asia)*, and it is precisely with the intention of answering these questions that he has identified the concept of “orgware”.

The contemporary world can be divided into six critical areas, in which the varying rates of growth today characterize the economic dynamics in process in the various areas of the world. Starting from the slowest of these economic areas currently represented by sub-Saharan Africa, followed by Latin America now in a phase of decline, and then south-west Asia and North Africa where alongside an extensive development there is a relative stagnation, we arrive at North America which together with Oceania and South Africa presents a phase of decreasing dynamism. We then find Europe characterized today by an “intensive development and a certain dynamism” and finally East Asia which shows an extreme dynamism.

But why East Asia? What does this vast and variegated area of the world, that includes the whole of eastern Asia and a good part of south-eastern Asia, present that is particular? Where does this current dynamism come from?

It is the heritage of a more or less direct common relationship with the traditions of the Chinese culture which brings together countries that are concretely different from one another due to their political and economic regimes: various interpretations of capitalism and communism are represented in this variegated economic system that goes from China to Taiwan, Hong Kong, Macao, Singapore, Vietnam, Korea and Japan, and which also includes countries characterized by a significant presence of Chinese minorities that control important sectors of the economy, such as Indonesia, for example.



It is precisely through the analysis of the particularities of this area – with its impressive population and the high rate of its economic development – that Fodella, comparing it with those of other economic areas, has succeeded in giving the true value to one of the factors of development that to date had not been taken into consideration: the orgware factor. But what is the orgware factor?

Defining the material and human resources available to an economic system as its hardware, and the organization and managerial capabilities of the same economic system as its software, the element lying between these two elements, orgware, is the element that makes that same system work. Orgware is “the set of institutions, rules or standards that define them, concrete behaviour and reciprocal relations and interactions”. If there is coherence between the contents of the rules and behaviour of those to whom the rules are addressed, the quality of the orgware is good.

We find the conditions to have an orgware of a high quality where the objectives of a society are shared, where there is no conflict on the world view and on the objectives between those who make the rules and those who must observe those rules. The quality of the orgware is high where there is the sense of belonging to the community of which one is a part.

For example in Japan, where the basic Confucian moral leads to seeking justice in concrete situations, relations are based on mutual trust, reliability and flexibility, attitudes which are not so obvious in the west, where contractual relations prevail and where morals are above all universal morals, morals that transcend individual circumstances. This results in the fact that in the West the infringement of social rules is considered less serious than that of divine rules, but on the contrary in East Asian societies social morals are not opposed to transcendental morals but there is one single set of morals.

There is coherence between rules and behaviour where there is mutual trust between the State and its subjects, where society meets the needs of the citizens: these are the basic conditions for an orgware of a good level, such as apparently exists at the moment in East Asia.

Even if Fodella does not say so explicitly, orgware of a good level is not necessarily a prerogative of this particular economic system. The quality of the orgware may vary, not only from society to society, but within one society, from one historical period to another.

Is it possible to influence the quality of the orgware of a country, or must we restrict ourselves to acknowledging the level of orgware in the various societies? Is it possible to act in such a way as to make an economic system efficient? How can orgware be quantified? These are all questions that would require positive answers to be followed by suitable solutions.

In every country the level of orgware varies according to the historical period. Changing the orgware thus means influencing history. And it also means thinking in the long term.

In the West, the aim is always for results to be achieved in a relatively short period of time (Europe) or a very short period of time (America). In Japan and in general in the whole of East Asia the temporal horizon that underlies the plans and strategies of economic systems, of companies and also of families, is very wide and the objective is not only profit, but there is a wider, more social and more farsighted objective. The long term and ethically motivated behaviour overlap.

In a not too distant past, the social function of time was a value anything but unknown in the West too, and was at the origin of many Western habits such as: saving, which means immediate sacrifice in view of a future benefit, ours or that of our descendants; attention to problems of old age, our own and that of others; devotion to study, in the certainty that in the future this would produce results. Results were expected long after the actions that prepared them, and confidence in the results was based on a long and solid construction. This attitude



has been replaced with us by a different way of thinking and different habits. The future of the elderly has been assigned to the social services; we no longer have confidence in study as before. Technology has accelerated manufacturing processes and the evolution of society. We have stopped worrying about others at least as a daily care. And thus taking advantage of the development of technology and social security, we have also lost the fundamental moral attitudes.

These are the attitudes that we still find in East Asia and which, considered from a different point of view, represent a competitive advantage of this economic system.

"A wide temporal horizon is a crucial factor of competitiveness", states Fodella. The results confirm that success belongs to those economic systems which plan in the long term and are also ready to make temporary sacrifices in view of future results.

ALMA LAURIA

DORE Ronald, *Bisogna prendere il Giappone sul serio. Saggio sulla varietà dei capitalismi*. 1990, Bologna, Il Mulino, pp. 366, L. 44.000.

Ronald Dore è autore di opere di grande valore come *City Life in Japan* (1958), indagine sociologica su un quartiere di Tokyo che venne salutata dai critici come la più approfondita analisi della società e della cultura giapponese apparsa dopo *Il crisantemo e la spada* della Benedict; e *British Factory - Japanese Factory* (1973), un'analisi comparata tra la fabbrica inglese e quella giapponese che rintraccia in maniera magistrale le origini delle differenze nazionali nelle relazioni industriali. Egli ci offre ora l'edizione italiana di un suo bellissimo libro del 1987, *Taking Japan Seriously* che usa il caso Giappone come uno specchio e un pretesto per fare considerazioni da un'angolazione particolare (*A Confucian perspective*) su alcune questioni economiche fondamentali (*on leading economic issues*) che ci riguardano tutti da vicino. Peccato che la traduzione non sia all'altezza dell'originale. Confondere Mencio con i Manciu può essere dovuto alle lacune dell'istruzione eurocentrica, ma alcuni importanti passi risultano veramente poco comprensibili per il lettore italiano che non abbia sottomano una copia del testo originale. Nella seconda edizione in lingua italiana pubblicata nel 1992 molte imperfezioni della traduzione sono state sanate. Speriamo tuttavia che il Mulino, che si appresta a darci in italiano anche *Flexible Rigidities - Industrial Policy and Structural Adjustment in the Japanese Economy 1970-80* (1986) dello stesso autore, ci fornisca una traduzione migliore.

La tesi di Dore è chiara, ribadita con argomentazioni diverse e una ricca aneddotica nelle varie parti del libro: l'efficienza che permette al Giappone di eccellere in molte situazioni deriva « dal prendere le decisioni giuste perché ognuno ha fatto il suo dovere ... dal badare alla qualità del lavoro che si fa e dei servizi che si offrono ai propri clienti ». Il successo competitivo del Giappone non è il risultato dell'efficienza nella sua accezione allocativa, ma è generato dal fatto che gli accordi sociali che implicano inefficienze allocative anche su vasta scala producono però un senso di equità che invoglia ciascun individuo a dare sul lavoro il meglio di se stesso. Quel senso di equità - ci ricorda Dore - non può essere un obiettivo raggiungibile quando ciascun operatore è incoraggiato a massimizzare il proprio tornaconto a breve termine con ogni mezzo e senza altro vincolo che non sia la dura realtà dell'operare delle forze di mercato. Non può esserlo in ogni caso in società dove il concetto odierno di diritto di cittadinanza si accompagna al diritto a essere rispettati e consultati, oltre che a godere di un reddito e di una sicurezza adeguati. La pratica dell'equità richiede moderazione nell'uso del potere di mercato e considerazione per gli interessi dei soci e dei concorrenti e per la comunità alla quale entrambi appartengono.



Scartata l'ipotesi, semplicistica ma in voga, che si possano trasferire frammenti di tecnologia sociale come i *circoli di qualità*, Dore ci dice che prender sul serio il Giappone significa invece chiedersi che cosa stia *dietro* ai *circoli di qualità* e di quale tipo di impresa essi siano l'espressione. A che tipi di istituzioni dovremmo quindi dar vita per produrre lo stesso senso di equità che consente alla società giapponese di godere di un'efficienza produttiva sconosciuta in Europa? Questa è la domanda alla quale il libro cerca di dare una risposta, e lo fa usando esempi tratti dall'organizzazione dell'istruzione professionale (orientata verso il mercato nel caso dell'Inghilterra e verso l'organizzazione-impresa nel caso del Giappone) per mostrare come le tendenze in atto indichino che la Gran Bretagna si stia già forse spostando verso il modello che tiene conto delle esigenze dell'organizzazione-impresa, ma non ancora abbastanza da alterare il modo di percepire la realtà e le aspettative della maggior parte dei datori di lavoro britannici.

Degni di nota il capitolo che spiega in quale modo il Giappone sia stato in grado di dotarsi di una politica dei redditi che funziona (in parte grazie anche al caso, ma non per questo quell'esempio cessa di essere una interessante fonte di ispirazione) e quello su autorità, gerarchia e comunità. Ricco di aneddoti è un vero e proprio squarcio di vita vissuta che Dore ci offre e che consente anche a chi non conosca il Giappone « dall'interno » di osservarlo da vicino usando come ulteriore strumento di esplorazione il costante paragone con la Gran Bretagna o il riferimento a una realtà più familiare perché radicata nella nostra cultura, come quando osserva che il modello di serena autorità che oggi domina in Giappone è dello stesso tipo di quello dell'Europa feudale: verso l'autorità si ha un timore reverenziale ma ammirazione soltanto quando vi si mescola la cura intrisa di calore umano per i seguaci fedeli.

Nel trattare del ruolo degli azionisti e della prospettiva di lungo periodo che tende a caratterizzare le imprese giapponesi, Dore affronta il problema dell'impresa vista come una comunità organizzata, un modello al quale saremo probabilmente costretti a tendere anche in Occidente se vorremo sopravvivere. La concorrenza sui mercati infatti è « sempre più in termini di qualità, innovazione e reputazione: tutti prodotti dell'efficienza dinamica in un orizzonte di lungo periodo ». Cruciali a questo proposito sono le relazioni di tipo fiduciario, perciò di lungo periodo (*relational contracting*) contrapposte a quelle di tipo contrattuale e perciò a breve (*spot-contracting*) che si instaurano nel mercato, tema al quale Dore dedica ampio spazio per sottolineare la maggiore efficienza, nel lungo periodo, della contrattazione basata su relazioni di tipo fiduciario (dove i confini legali sono labili, ma quelli « normali » saldi) che prevalgono in Giappone, rispetto ai contratti basati sulle norme (dove i confini legali sono rigidi ma nessuna norma morale vieta che essi siano aggirati, se ciò avviene « legalmente ») che prevalgono invece in Occidente. Dore sembra riporre una certa fiducia nella possibilità di produrre un mutamento sostanziale nelle norme di comportamento, oltre che di carattere istituzionale e normativo, ispirato all'esempio giapponese. Chi scrive non è così ottimista e forse soltanto se ci renderemo veramente conto che non esistono alternative saremo disposti a cambiare, il che non significa che ci riusciremo. Poiché per farlo dovremmo mutare l'*orgware* che caratterizza il nostro sistema economico, operazione per la quale non disponiamo di strumenti adeguati in grado di produrre un risultato certo.

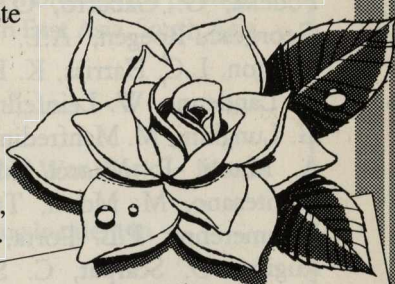
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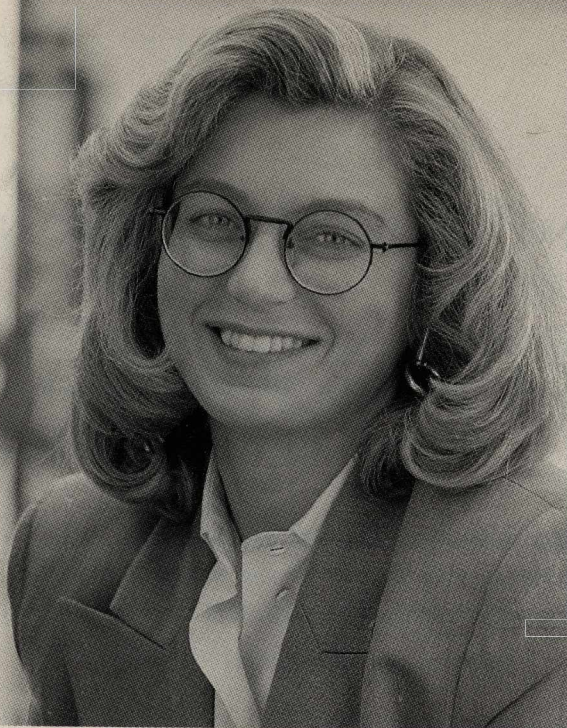
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