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Review

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A new international industrial order

*Michael Mortimore**

There can be little doubt that the present international order, especially in the field of industry, is markedly different from that which existed at the beginning of the century, and even from the order existing after the last war. This new order is distinguished above all by the extraordinary intensity that international competition has assumed in it; by the fact that primarily it only involves a few thousand world-scale transnational corporations operating in half a dozen technologically advanced industries and another half dozen which are in full process of restructuring; by the fact that its interest is centered on three markets (the United States, the European Economic Community and Japan), which together make up what is called "the Triad"; and by the fact that the power relations between the countries and the transnational corporations are in a process of continuous and ever more rapid change.

The most important changes are to be seen in the tendencies towards globalization and specialization which are clearly evident in international trade, and the trends towards globalization and regionalism which mark foreign direct investment. The reordering which has taken place within the Triad has placed the transnational corporations of Japan at its head, mainly at the expense of the United States transnationals.

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Introduction

The twentieth century has witnessed some of the most dramatic and traumatic upheavals in world history, yet toward the end of that century a broad consensus is taking shape with regard to the central features of the contemporary political economy. On the economic plane, it has become apparent that 'the market' is seen as the appropriate instrument for brokering competing interests. On the political plane, representative democracy is seen as the appropriate means for choosing between different political orientations. On the social plane, things are not as clear, however, it is evident that self-help is displacing governmental social welfare schemes. Common to all these elements of the growing consensus is the central fact that competition, in general, is being both heightened in intensity and channelled through mechanisms designed to reduce violent outcomes.

This new consensus is partly the result of the new power relations which have been taking form. In terms of international relations, the East-West and North-South dimensions of conflict have been resolved through abandonment due to the implosion of the Soviet bloc and the apparent dissolution of the Southern one. The new key issues in international relations are now those involving the new Triad of power, that is, the United States, the European Economic Community and Japan, which account for two-thirds of world GDP, four-fifths of outward stocks of foreign direct investment, and over two-thirds of world trade (CTC, 1991b, pp. 12 and 19). At the national level, the new power relations affect both the private and public sectors, leaving a clear sensation that business has increased its share of power and that the public sector's influence has declined. The nature of the business/government relation is central, in distinct ways, to the dynamic of each Triad member (Ostry, 1990a).

A central part of this new consensus has been transmitted to the rest of the world in the form of the "Washington consensus" or the "Bank/Fund orthodoxy", named after the constantly evolving influence of the World Bank and the International Monetary Fund.¹ The principal aspects of that

¹ *The Economist*, 1991b. A US official publication speaks of "a 'market-friendly' approach to development" in referring to the World Bank (*Business America*, 1991, p. 11).

orthodoxy concern non-inflationary macroeconomic policy based on modest budget deficits and prudent monetary policy; greater openness to trade and foreign investment; and greater reliance on market forces as allocators of resources, especially in industry and agriculture.

An important phenomenon which has made itself evident towards the end of the twentieth century is the transnational corporation (TNC)-centric nature of the changes taking place. The transnationalization process (CTC, 1989) is manifest in the growing role of "global" TNCs (Ostry, 1990a) in most aspects of the contemporary international political economy. In 1985, just 600 TNCs, each with sales in that year greater than US\$1 billion, were responsible for one-fifth of total (non-socialist bloc) industrial and agricultural value added. Their primary lines of business (as measured by sales) were concentrated in the petroleum (24.6%), machinery and equipment (24.5%), chemical (13.5%) and motor vehicle (12.6%) industries. More to the point, in 1986 ten of these TNCs controlled 66.2% of the world semiconductor market, nine others accounted for 89% of the world telecommunications market, and ten had an unspecified but majority share of the world computer market (CTC, 1989, chaps. II and III).

TNCs increasingly dominate international trade and investment flows, and an increasing proportion of such flows are becoming essentially internal operations of expanding global networks. Effectively, the "most recent decade was marked by increasing economic interdependence and globalization of markets through a rapid acceleration of trade and investment flows, the creation and diffusion of new technologies, the explosive growth of capital markets and financial market integration, and the conduct of business operations on a world-wide basis ... The prime actors in this globalization process obviously are multinational firms, through their waves of investment and corporate linkages, which allow them to operate on a world-wide basis" (Smeets, 1991, p. 57). As well as provoking greater inter-TNC rivalry, the high expenditure necessary to keep a TNC on the leading edge of technology paradoxically is fomenting the formation of a kind of strategic alliance referred to as "technoglobalism", that is, new forms of international networking among TNCs in respect of research and development and technological matters (Ostry, 1991, p. 3).

The common denominator of all these changes has been heightened competition and increased concern for the rules of the game. The new competition has not affected all countries, industries or firms equally. In somewhat oversimplified terms, a handful of innovating Japanese-based firms operating in the automotive, semiconductor/computer, consumer electronics, office equipment, machine tools and other sectors have shocked their US- and European-based counterparts by overwhelming their world market positions and/or savagely penetrating their home markets. The European-based TNCs have seemed less reticent about attempting to stifle import competition by way of blatant trade restrictions, but the US-based ones have had a more difficult time reacting, since they were shaken out of their comfortable post-war oligopoly positions without being able to have recourse to the same level of government assistance as the European TNCs. Once the TNCs under attack understood that their situation was not to be remedied through permanent governmental assistance or by throwing capital resources into possible new scientific or technological breakthroughs, they began to face up to the task of improving their capacity to compete internationally. In this sense, the new era of international competition is based, initially, on a few thousand large and innovative TNCs in head-on competition over a dozen high-technology and/or trade-intensive industries serving three huge markets: the US, Europe and Japan. That laid the basis for what has become known as "industrial restructuring", which is central to the new international industrial order.

As Kaplinsky (1989) has shown, industrial restructuring as a concept has at least four distinct interpretations. According to the French Regulationist school, industrial restructuring is the means of arriving at a sustainable path of accumulation based on a regime of accumulation which balances consumption, savings and investment and on a mode of regulation (institutional forms and social patterns of behaviour) which underwrites the accumulation regime (Aglietta, 1979, and Liepitz, 1987). The neo-Schumpeterian structuralists view it in terms of 50-year long-wave cycles of fundamental (or "heartland") technological breakthroughs that sustain growth. Previous industrial growth cycles were based on textiles, steel, railroads

and the internal combustion engine, while the current one is based on microelectronics (Freeman, Clark and Soete, 1982). Another interpretation sees the current transition in terms of the exhaustion of the mass production paradigm—that is to say, the production of standardized commodities through the use of special-purpose machinery and a rigid division of labour—and its replacement by a new flexible specialization paradigm based on smaller batches of differentiated products made with general-purpose flexible machinery and new forms of work organization (Piore and Sabel, 1984). Finally, another vision interprets the present situation in terms of a transition from “machinofacture” to “systemofacture”, that is to say, a new organizational practice in which the integration of the pro-

ductive units via automation technology, new inter-firm relations and integral work practices supersedes individualist orientations (Hoffman and Kaplinsky, 1988). Each of these interpretations captures some element of the essence of the new international industrial order taking form towards the end of the twentieth century.

In the rest of this article the topic of increased international competitiveness in the form of globalization, specialization and regionalism will be examined. The preponderant role of transnational corporations in the field of industrial restructuring is highlighted, especially with regard to the two principal areas where the increased international competition has been most evident, namely, trade and foreign direct investment.

I

Trends towards increased international competition: globalization, specialization and regionalism

In order to better comprehend the significance of the increased international competitiveness it is necessary initially to refer to the intrinsic nature of the evolution of capitalism and the modern industrial enterprise (Chandler Jr., 1990). The birth of the capitalist system of production coincided with the Industrial Revolution in Europe, particularly in England. As a result, personal capitalism in Britain, or the personal management of the family enterprise, became the epitome of the first phase of capitalist development based primarily on activities in the brewing, textiles, publishing and printing, shipbuilding, chemical and light machinery industries.

In the latter half of the nineteenth century a new form of capitalism made its appearance, principally in the United States and the rest of Europe: managerial capitalism. This was based on the recruitment of professional managers who undertook longer-term investments and implemented new organizational practices to gain bigger market shares. As Chandler explains, this model took two primary forms, competitive managerial capitalism, most evident in the United States, and cooperative managerial capitalism in Germany. In the United

States managerial capitalism was considered competitive because, after a convoluted struggle between government and business in which trust-busting was implemented in order to break up expanding private industrial empires, unabashed competition among mainly independent industrial entities became the norm for the expansion of manufacturing activities and carried this form of economy to world-class stature. At its core, the competitive advantage of American-style managerial capitalism lay in innovation and a productive process based on exploiting economies of scale by way of heavy capital investment in long lines of production for standardized products, coupled with complementary investment in marketing and the development of strategies of global expansion. Its success during the twentieth century was symbolized by the mass production of the automobile as well as by the concern of others with “the American challenge” (Servan-Schreiber, 1967). Managerial capitalism eventually gave birth to the transnational corporation.

In general, the system of managerial capitalism which blossomed in Germany was similar to that in the United States; however, there were three very important differences (Chandler Jr., 1990,

pp. 393-592). One was that the German variant was more centered on intermediate and capital goods (to the exclusion of consumer goods), most notably in the chemical and heavy machinery industries. Secondly, and related to the first difference, Germany's competitive advantage as often as not related to economies of scope as to those of scale. Thirdly, and by far the most important, German capitalism was grounded on a cooperative approach to inter-firm (with suppliers and competitors) and intra-firm (with labour) relationships. Central to this cooperative approach was the concentration of capital or coordinated business operations by groups. It is said that the huge Deutsche Bank alone controls one-third of German manufacturing industry. These characteristics were particularly suited to the European situation, and helped Germany both to develop into the strongest industrial economy of Europe and also to face up to the American challenge at home and abroad.

However, cooperative managerial capitalism reached its fullest expression in Japan later in the twentieth century, and this Japanese version has been steamrolling international competitors in many strategic industries over the last decade or so. The Japanese "system", as well as dominating limited-variety, large-batch mass production manufacturing, is achieving what was considered the impossible in the sense that it combines multi-variety, small-batch and more flexible lines of production with both lower costs and improved quality (Ozawa, 1991). Japanese industrial success seems to rest on a host of factors, of which two can be highlighted here. First, they have demonstrated a long-term strategic commitment to industrial innovation and upgrading, something Harvard Business School's Professor Michael Porter considers the essence of competitive advantage (Porter, 1990a). Secondly, they have taken cooperation to new lengths. In terms of labour relations, this is reflected in salaries which to a certain extent correspond not so much to the productive task that the labourer is performing as to the ones that he is capable of performing. Most important of all, however, in terms of relations with other firms it is reflected in the formation of *keiretsu*, or strategic business alliances among the principal enterprises, so that most internationally competitive companies are organized in just six or so central business groupings, (as shown in table 1), which operate

with a good deal of governmental assistance in targeting their next prey.² Instead of producing stagnant cartels, as the free-market entrepreneurship argument claims, this produces global winners (Ferguson, 1988). The burgeoning literature of the type of "Why Japan Keeps On Winning" (*Fortune*, 1991b, pp. 76-85) and "The Battle for Europe: Japan muscles in on the West and a shakeout begins" (*Business Week*, 1991, pp. 44-52) clearly suggests as much.

While it has been maintained that the fountain-head of international competitiveness is the capitalist mode of production as manifest in specific national variants, the argument can also be reduced to certain "market model" considerations (Ostry, 1991, pp. 4-5). Ostry distinguishes the US pluralist market economy from the continental European social market economies and the Japanese managerial market economy, highlighting differences in terms of the role of government, market failure, time horizons, the government/business interface, etc. The truth of the matter is that the Japanese managerial model has been savagely penetrating the US pluralist market economy and apparently is beginning to do the same with the continental European social market economy.

Porter's "stages theory of competitive development", as refined by Ozawa (Porter, 1990b; Ozawa, 1992), is quite relevant here. Porter defines the competitive development of national economies in terms of four stages, which he summarizes according to their central and sequential competitive features: i) factor-driven, ii) investment-driven, iii) innovation-driven and iv) wealth-driven. According to him, the first three stages involve successive upgrading of a nation's competitive advantages and will normally be associated with progressively rising economic prosperity, whereas the fourth stage is usually characterized as one of drift and ultimately decline.

Natural resource-based activities and/or labour-intensive manufacturing are central to competitive advantages in the first stage, whereas the investment-driven stage is based on the manufacture of intermediate and capital goods (heavy industry and

² It should be noted that not all the most internationally competitive Japanese firms are linked to these six groups. Notable exceptions include, for example, Honda, Matsushita and Sony.

Table 1
JAPAN: MAIN COMPONENTS OF THE SIX BIGGEST BUSINESS GROUPS*
(Includes only companies represented at monthly council meetings)

A. INDUSTRY	Mitsubishi	Mitsui	Sumitomo	Fuyo	DKB	Sanwa
Cars	Mitsubishi Motors (69)	Toyota Motors ^b (6)		Nissan Motors (20)	Isuzu Motors (127)	Daihatsu Motors (262)
Computers, electronics and electrical equipment	Mitsubishi Electric (49)	Toshiba (29)	NEC (40)	Okai Electric Industry Yokogawa Electric Hitachi ^b (12)	Fujitsu (63) Fuji Electric (259) Yaskawa Electric Mfg. Nippon Columbia Hitachi ^b	Iwatsu Electric Sharp (134) Nitto Denko Kyocera (434) Hitachi ^b (12)
Metals	Mitsubishi Steel Mfg (250) Mitsubishi Materials Mitsubishi Cable Industries	Japan Steel Works Mitsui Mining and Smelting (457)	Sumitomo Metal Industries (98) Sumitomo Metal Mining (327) Sumitomo Electric Industries (190) Sumitomo Light Metal Industries	NKK (130)	Kawasaki Steel (152) Kobe Steel ^b (143) Japan Metals & Chemicals (340) Nippon Light Metal Furukawa Furukawa Electric (256)	Kobe Steel ^b (143) Nakayama Steel Works Hitachi Metals Nisshin Steel (409) Hitachi Cable
Industrial equipment	Mitsubishi Heavy Industries (70) Mitsubishi Kakoki	Mitsui Engineering and Shipbuilding	Sumitomo Heavy Industries (432)	Kubota (237) Nippon Seiko (485)	Niigata Engineering Iseki Ebara Kawasaki Heavy Industries Ishiwajima-Harima Heavy Industries (241)	NTN Hitachi Zosen Shin Meiwa Industry
Rubber and glass	Asahi Glass (151)		Nippon Sheet Glass		Yokohama Rubber (449)	Toyo Tire & Rubber
Chemicals	Mitsubishi Kasei (161) Mitsubishi Petrochemical (412) Mitsubishi Gas Chemical Mitsubishi Plastics Industries Mitsubishi Kasei Polytec	Mitsui Toatsu Chemicals (386) Mitsui Petrochemical Industries	Sumitomo Chemicals (182) Sumitomo Bakelite	Showa Denko (314) Nippon Oil & Fats Kureha Chemical Industry	Kyowa Hako Kogyo Denki Kagaku Kogyo Nippon Zeon Asahi Denka Kogyo Sankyo (438) Shiseido (410) Lion	Ube Industries (317) Tokuyama Soda Hitachi Chemical Sekisui Chemical (276) Kansai Paint Tanabe Seiyaku Fujisawa Pharmaceuticals
Fibres and textiles	Mitsubishi Rayon	Toray Industries (231)		Nissinbo Industries Toho Rayon	Asahi Chemical Industry (158)	Unitika Teijin (336)
Pulp and paper	Mitsubishi Paper Mills	Oji Paper (306)		Sanyo-Kokusaku Pulp (405)	Honshu Paper (422)	

Table 1 (concluded)

A. INDUSTRY	Mitsubishi	Mitsui	Sumitomo	Fuyo	DKB	Sanwa
Cameras and optics	Nikon			Canon (104)	Asahi Optical	Hoya
Cement		Onoda Cement (446)	Sumitomo Cement	Nihon Cement	Chichibu Cement	Osaka Cement
Oil and coal	Mitsubishi Oil (325)			Tonen (246)	Showa Shell Sekiyu (139)	Cosmo Oil (155)
Food and beverages	Kiron Brewery (239)	Kippon Flour Mills		Nissin Flour Milling Sapporo Breweries Nichirei (399)		Itoham Foods (421) Suntory
B. SERVICES						
Financial services	Mitsubishi Bank Mitsubishi Trust & Banking Meiji Mutual Life Tokio Marine & Fire	Mitsui Taiyo Kobe Bank Mitsui Trust & Banking Mitsui Mutual Life Taisho Marine & Fire	Sumitomo Bank Sumitomo Trust & Banking Sumitomo Life Sumitomo Marine & Fire	Fuji Bank Yasuda Trust & Banking Yasuda Mutual Life Yasuda Fire & Marine	Dai-ichi Kangyo Bank Asahi Mutual Life Taisei Fire & Marine Fukoku Mutual Life Nissan Fire & Marine Kankaku Securities Orient	Sanwa Bank Toyo Trust & Banking Nippon Life Orix
Trading and retailing	Mitsubishi	Mitsui	Sumitomo	Marubeni	C. Itoh Nissho Iwai ^b Kanematsu Kawasho Seibu Department Stores	Nissho Iwai ^b Nichimen Iwatani International Takashimaya
Construction	Mitsubishi Construction	Mitsui Construction Sanki Engineering	Sumitomo Construction	Taisei	Shimizu	Toyo Construction Obayashi Sekisui House Zenitaka
Real estate	Mitsubishi Estate	Mitsui Real Estate Development	Sumitomo Realty & Development	Tokyo Tatemono	Tokyo Dome	
Mining and forestry		Mitsui Mining Hokkaido Colliery & Steamship	Sumitomo Forestry Sumitomo Coal Mining			
Shipping and transportation	Nippon Yusen Mitsubishi Warehouse & Transportation	Mitsui OSK Lines Mitsui Warehouse	Sumitomo Warehouse	Showa Line Keihin Electric Express Railway Tobu Railway	Kawasaki Kisen Shibusawa Warehouse Nippon Express ^b	Naivix Line Hankyu Nippon Express ^b

Source: *Fortune*, New York, The Time Inc. Magazine Company, 15 July 1991.^a The numbers in parentheses after certain firms indicate their ranking, according to their sales, among the 500 biggest industrial companies in the world in 1991.^b Companies affiliated with more than one group.

chemicals) and the construction of infrastructure (housing, transportation, communications and public works). The innovation-driven stage rests on research and development successes deriving from the abundant use of increasingly highly-qualified human capital. It would appear that while most developing countries are to be found in the factor-driven and, less evidently, in the investment-driven stages, most so-called developed countries are to be found in the more advanced phases of the investment-driven stage or in the earlier phases of the innovation-driven stage of competitive development. One might speculate that the United States has entered the wealth-driven stage characterized by drift and ultimately decline.

Ozawa has given life to this scheme by showing how the Japanese experience demonstrates the close inter-relatedness between structural upgrading, dynamic comparative advantage and foreign direct investment in a country where there is intensive use of the endowment of physical/human capital and technological progress. In this way, he makes it clear how a particular stage of competitive development is associated with a particular pattern of export competitiveness: the first stage is characterized by factor-based trade advantages in either primary commodities or labour-intensive goods; the investment-driven stage produces scale-based advantages in large-scale, capital-intensive goods; and the innovation-driven stage results in R & D-based advantages manifest in exports of more technologically sophisticated products. In this sense, economic growth and transformation are accompanied by the changing patterns of dynamic comparative advantage. It should be mentioned that these changes are not simply one-shot transformations, but result rather from progressive transitions characterized by the simultaneous rise and fall of particular economic activities, and they can be conceptualized as the shift in the centre of gravity of the economy as a whole.

Ozawa has also indicated how the nature and direction (inward or outward) of foreign direct investment changes in step with the structural transformation of the economy. The factor-driven stage results in inward FDI characterized as resource- or labour-seeking. The second (investment-driven) stage produces inward FDI in the capital and intermediate goods industries, while simultaneously

generating outward FDI in labour-intensive manufacturing in lower-wage countries and in resource extraction abroad for natural resource-scarce countries. Likewise, the transition to the innovation-driven stage brings about simultaneous inward FDI in technology-intensive industries and outward FDI in the intermediate goods industries. Based on this scheme, and utilizing the example of the explosive transformation of the Japanese economy during the twentieth century, Ozawa relates trade and foreign direct investment developments to Porter's stages theory of competitive development, and such an approach can also be thought of as providing the framework for some of the major alterations taking place in global trade and investment flows.

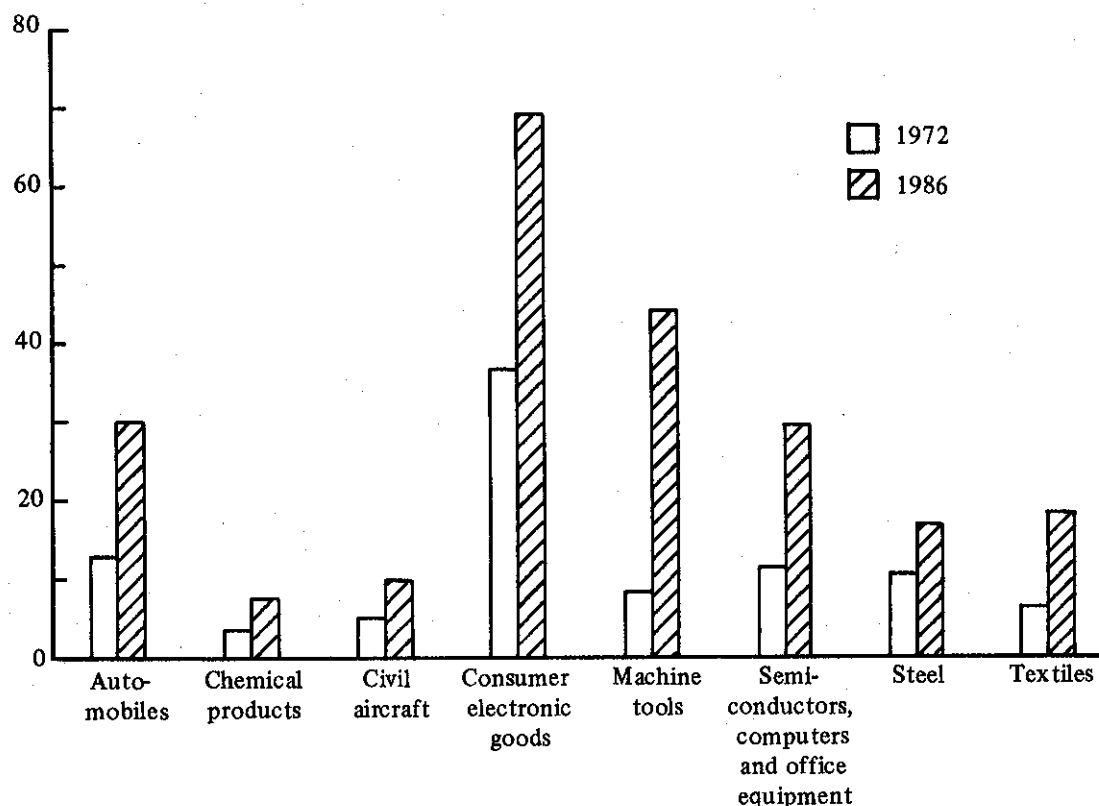
Some indication of the magnitude of the changes taking place is given in figures 1 through 3, which deal with the import penetration, export performance and foreign trade balance of eight major US manufacturing industries, most of them considered "strategic" (OECD, 1991), between 1970 and 1986. The message is clear: imports by the US grew appreciably over this period, US exports to the OECD countries suffered a notable decline, and the United States trade balance worsened significantly. Even a casual glance at the 1991 sales and profit figures of the Fortune 500 largest US industrial corporations is enough to show that 30 of the largest 60 corporations suffered a decline in sales compared to 1990, and 31 registered a decline in profits compared with the same year. The largest of the 500 companies in such important industries as motor vehicles and parts, computers/ office equipment, and industrial and farm equipment suffered severe losses of US\$7.5 billion, US\$2.8 billion and US\$661 million, respectively (*Fortune*, 1992a).

Even if one considers the post-war years to be abnormal, and hence not a suitable basis for comparison (*The Economist*, 1991c), there is no hiding the pain for a humbled America. American concern to promote domestically-made products (the "Made in USA" campaign) is clearly justified (Dertouzos and others, 1989; *Fortune*, 1990). American industry, even in the high-technology sector, has lost ground in world markets and is suffering increased competition at home. Moreover, an increasing share of US domestic production is foreign-owned (United States

Figure 1

UNITED STATES: IMPORTS OF SELECTED PRODUCTS, 1972 AND 1986

(As percentages of the US market for each product)



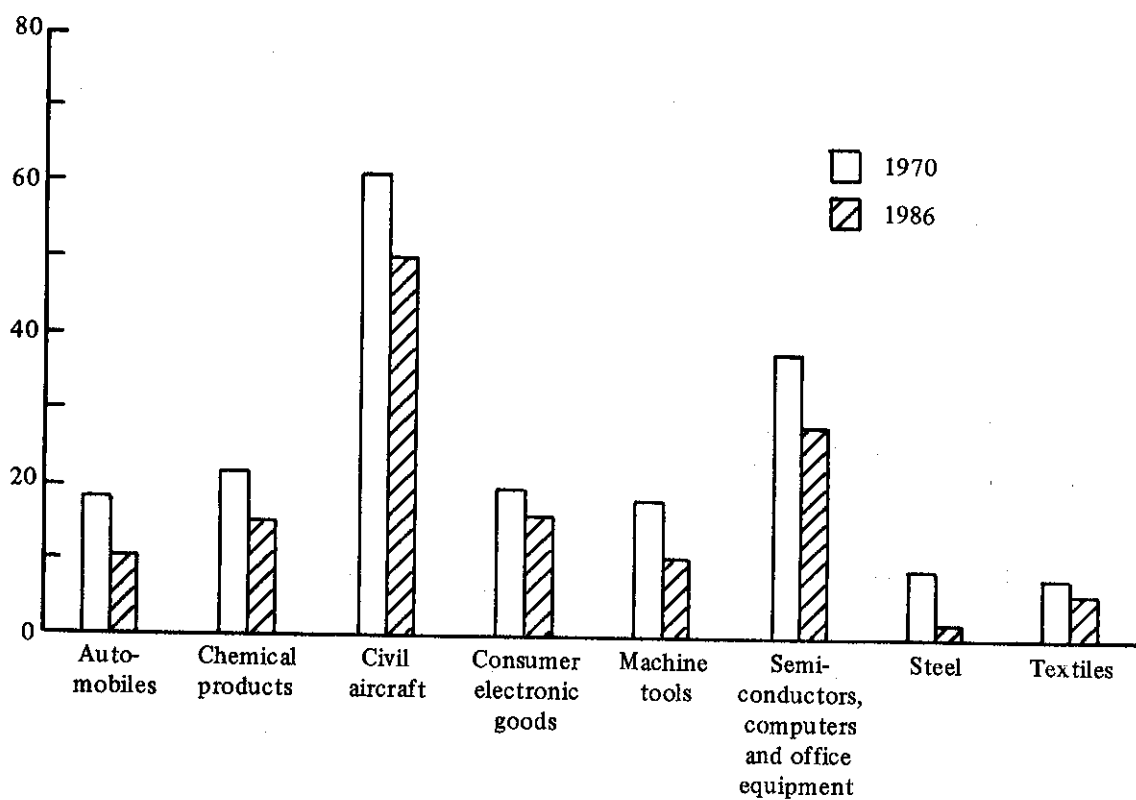
Source: Based on information supplied by the US Department of Commerce, Bureau of International Commerce, Office of Trade Information and Analysis, supplemented with data given in its publication *US Industrial Outlook*, Washington, D.C., US Government Printing Office, 1988; and on information from the COMTAP data base of the Organization for Economic Cooperation and Development (OECD), cited in Dertouzos *et al*, 1989.

Department of Commerce, 1991). The negative trade situation is caused primarily by Japanese TNCs, which in 1990 were running surpluses in their trade with the US amounting to US\$22.3 billion in computers and telecommunications equipment, US\$20.5 billion in cars and trucks, and US\$9 billion in industrial equipment, i.e., in three principal high-technology and/or trade-intensive industries. The increase in foreign investment in US production had to do more with European than Japanese TNCs, although in fact both were very active. It was Japan which made the

US feel most uncomfortable, however, and a serious rift was opened in this respect between the two countries (*Fortune*, 1991a, pp. 38-48).

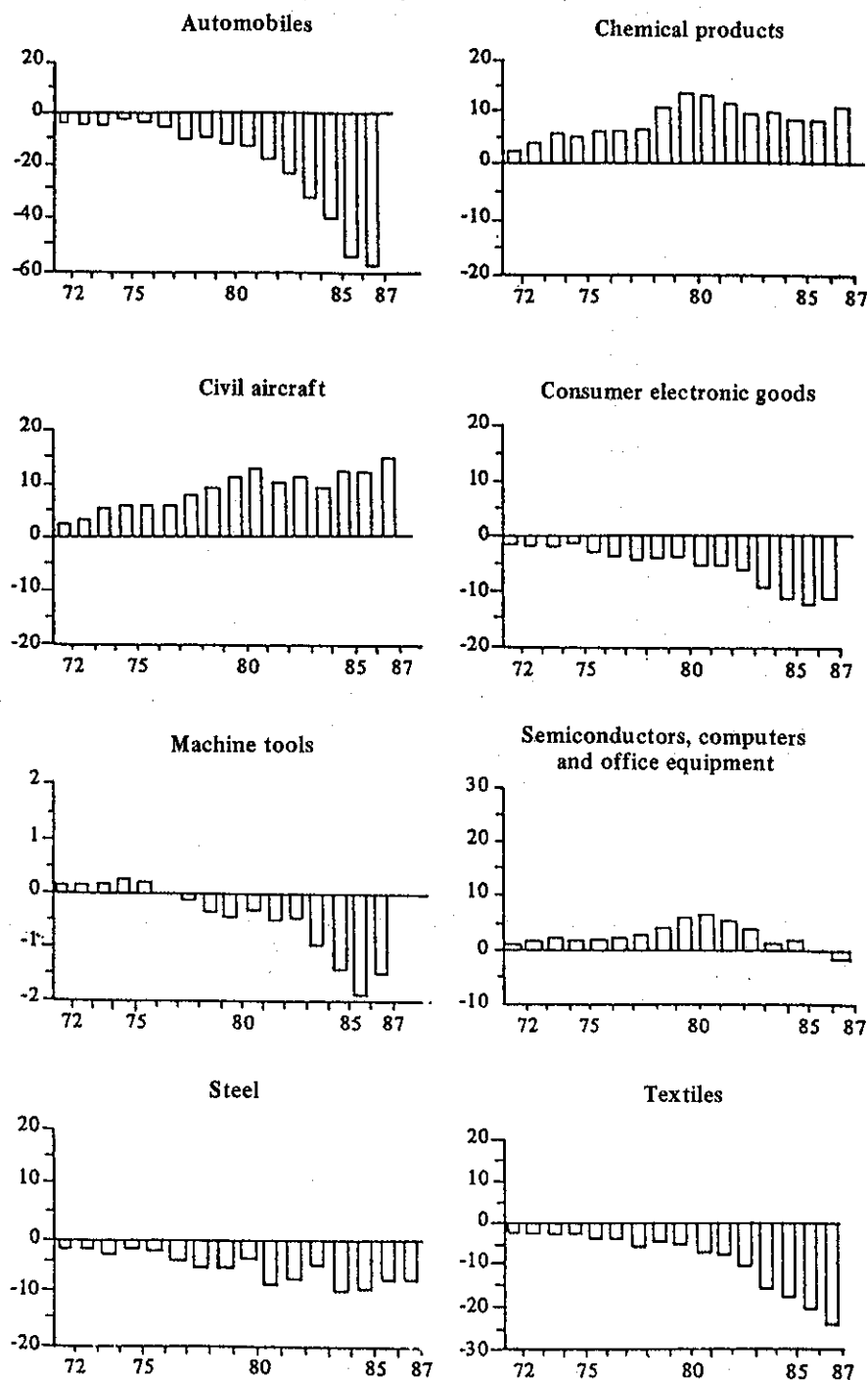
It makes sense to place the US-Japan rift in the broader context of changes in international trade and its "neglected twin", foreign direct investment (Julius, 1991). The globalization and specialization tendencies of international trade will be dealt with first, followed by the globalization and regionalization tendencies in the field of foreign direct investment.

Figure 2

**UNITED STATES: EXPORTS OF SELECTED PRODUCTS,
1970 AND 1986***(As percentages of the total OECD market for each product)*

Source: Based on information supplied by the US Department of Commerce, Bureau of International Commerce, Office of Trade Information and Analysis, supplemented with data given in its publication *US Industrial Outlook*, Washington, D.C., US Government Printing Office, 1988; and on information from the COMTAP data base of the Organization for Economic Cooperation and Development (OECD), cited in Dertouzos *et al*, 1989.

Figure 3

UNITED STATES: TRADE BALANCE FOR SELECTED PRODUCTS*(Billions of current dollars)*

Source: Information supplied by the US Department of Commerce, Bureau of International Commerce, Office of Trade Information and Analysis. Cited in Dertouzos *et al.*, 1989.

II

Trends in international trade: globalization and specialization

The principal changes in the international trading system over the last few decades have been its notable expansion; the upsurge of major new exporters (Japan and the Asian NICs); the opening-up of the United States market and, to a much lesser extent, the European Economic Community to increased import flows; and the increase in system tension or conflict associated with these changes.

An interesting industrial taxonomy has been developed for succinctly capturing the global changes in terms of country trade specialization (Pavitt, 1984 and 1988; Guerrieri, 1991). As well as confirming the principal winners (Asian NICs, Japan) and losers (European Economic Community, USA) in world trade over the 1970-1989 period, this analysis offers an insight into the trade specialization taking place on the part of the EEC, Japan and the United States.

In general, as table 2 indicates, Japan and the United States underwent significant trade specialization during the period in question, whereas the EEC did not. Of the major countries, Japan has had the best trade performance over the last two decades and, as table 3 demonstrates, that success was manifest: i) in the doubling of its market shares in science-based sectors (fine chemicals, electronic components and telecommunications), that is to say, areas characterized by innovative activities which are directly linked to high research and development expenditures, which generate broad spillover effects on the whole economic system, and which serve as intermediate and capital inputs to a large number of other sectors, and ii) in considerable gains in specialized suppliers industries producing investment goods based on mechanical and instrument engineering, such as machine tools: that is to say, in activities characterized by the highly diversified supply of goods serving mainly as inputs for scale-intensive and supplier-dominated sectors, where there are significant economies of scope. Japanese trade specialization was particularly strong in the research and development-intensive electronic sectors (such as data processing systems, electronic components and

telecommunications), while Japanese firms moved decisively out of traditional sectors.³

The flip side of the Japanese advance in terms of its share of world trade in manufactures was represented by the US decline. It was precisely where the Japanese TNCs made the greatest inroads—electronics, and specialized suppliers industries—that the most negative results for US firms were registered. Table 2 shows that while US enterprises have succeeded in greatly furthering their specialization in the science-based sectors (except electronics), they have experienced increasing difficulties in transforming high-level scientific and research capability into innovative activities and products with significant commercial value in the other manufacturing sectors (table 2).⁴ Table 3, for its part, shows how US firms' market shares in dynamic sectors crumbled. They suffered a kind of de-specialization in specialized suppliers and scale-intensive sectors (automobiles, consumer electronics and consumer durables, as well as the rubber and steel industries), the latter being areas characterized by oligopolistic industries with high capital intensity, wide economies of scale, high technical and managerial complexity and significant in-house engineering activities. Furthermore, US firms were not very successful in moving out of traditional sectors.

³ This paragraph and the following one are based largely on Guerrieri, 1991.

⁴ It should be reiterated that these changes are all relative. There is little doubt that the US as a whole is losing competitiveness, yet even the Economic Planning Agency of Japan has admitted that the US remains ahead in many leading high-technology industries. That Agency's survey of 110 critical technologies in 1991 revealed that US firms led in 43, Japanese companies in 33, and European and other firms in the remaining 34 (*The Economist*, 1992c, p. 69).

Table 2

**JAPAN, UNITED STATES AND EEC: SECTORAL DISTRIBUTION
OF THEIR TOTAL EXPORTS OF MANUFACTURES, AS A
PERCENTAGE OF TOTAL OECD EXPORTS,
1970-1973 AND 1986-1989**

	Japan		United States		European Community ^a	
	1970-1973	1986-1989	1970-1973	1986-1989	1970-1973	1986-1989
Science-based	11.3	27.3	19.0	30.5	11.0	16.6
Specialized suppliers	10.4	15.3	15.9	10.5	15.2	12.9
Scale-intensive	53.8	46.4	23.4	21.4	31.2	30.7
Resource-intensive	2.0	2.0	5.5	5.6	6.8	6.4
Traditional	17.6	6.8	7.8	7.3	18.6	17.0
Food industries	1.7	0.5	4.7	4.6	7.7	7.8
Food items and agricultural raw materials	1.0	0.3	16.0	9.7	4.6	3.9
All other	2.2	1.4	7.7	10.4	4.9	4.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: P. Guerrieri, Technological and trade competition: a comparative analysis of the United States, Japan and the European Community, University of Rome, *mimeo*, July 1991.

^a Nine members.

Table 3

**JAPAN, UNITED STATES AND EEC: SHARES IN WORLD EXPORTS OF
MANUFACTURES, BY SECTOR, 1970-1973 AND 1986-1989**

(Percentages)

	Japan			United States			European Community ^a		
	1970-1973	1986-1989	Variation	1970-1973	1986-1989	Variation	1970-1973	1986-1989	Variation
Science-based	8.5	16.4	7.9	27.1	20.1	-7.0	46.4	37.8	-8.6
(R&D-intensive electronics) ^b	(9.4)	(21.5)	(12.1)	(28.5)	(19.5)	(-9.0)	(45.0)	(29.0)	(-16.0)
Specialized suppliers	7.0	15.7	8.7	20.3	12.7	-7.6	57.2	49.9	-7.3
Scale-intensive	15.4	16.7	1.3	12.8	9.6	-3.1	51.7	47.4	-4.3
Traditional	8.2	3.9	-4.3	6.9	5.4	-1.5	50.4	42.5	-7.9
Total	9.0	11.6	2.6	13.5	11.3	-2.2	48.6	44.0	-4.7

Source: P. Guerrieri, Technological and trade competition: a comparative analysis of the United States, Japan and the European Community, University of Rome, *mimeo*, July 1991.

^a 12 member countries.

^b Subsector of "science-based" which includes data processing equipment, electronic components and telecommunications equipment.

Another way of defining winners and losers with regard to foreign trade over the last decade or so is that used by Mandeng (1991). Considering that economic growth has become more trade-intensive and that the dynamic elements are centered on large firms producing technologically complex manufactures for imperfectly competitive global markets, and that certain new players (Japan and the Asian NICs) are rapidly improving their trade performance (Ostry, 1990b), it makes sense to focus on the changes taking place in OECD over-all imports.

Fajnzylber, based on Mandeng, defines not only the "winners" who increased their market share between 1979 and 1988, but also analyses gains according to the principal products involved, in the sense that he distinguishes products enjoying increased global market shares from those that do not (Fajnzylber, 1991). In other words, "winner" countries can increase their market shares with "dynamic" products (the optimal situation of "rising stars") or "declining" ones (a situation of vulnerability ascribed to "waning stars"). Conversely, "loser" countries might lose market shares with either "dynamic" products (a situation defined as "missed opportunities") or "declining" ones (a situation called "retreat"). Naturally, the mix of products for virtually all countries contains examples of both kinds. The overall situation is, none the less, revealing, as is suggested by table 4.

Among the principal OECD countries, Japan has clearly enjoyed the most important market gains and, more importantly, 80% of its exports are in the optimal situation, while virtually all are non-natural resource-based manufactures. With few exceptions (Netherlands and the UK), the European Community members generally made minor market gains, but except for Portugal the "winners" faced many missed opportunities in their export performance, even though they exported mostly non-natural resource-based manufactures. Even more badly off were Australia and New Zealand, whose exports of natural resources or natural resource-based manufactures were characterized by situations of vulnerability or retreat. The United States, for its part, lost part of its market share because even fewer of its products were in an optimal situation and even more were in the category of "missed opportunities" than in the case of the Europeans, while a similar proportion of its export products were in retreat, in the face of the Japanese onslaught.

This dramatic shift in foreign trade performance by OECD countries naturally provoked discontent on the part of the losers. The Europeans reacted positively, through accelerated integration in the form of the Europe 1992 initiative, and negatively through a policy of applying anti-dumping duties to the avalanche of finished products landing on their doorstep, supplementing this measure with fixed quantitative import restrictions in certain sectors, such as automobiles. New initiatives in the field of merger and takeover policy are also worth noting (Julius, 1991, p. 12). Some of the principal effects were, first, to promote local assembly facilities by way of foreign direct investment and, second, to slowly raise the levels of local content in those facilities.⁵ Overall and in general, through bureaucratic procedures and trade restrictions the EEC members were made less penetrable and given more time to adjust.

The US economy was more penetrable, but the reaction of the United States was rather more combative, as it increasingly relied on unilateral strong-arm tactics, as manifest in the US Omnibus Trade and Competitiveness Act (the "Trade Act") of 23 August 1988. This legislation allows the US Government to determine unilaterally what it defines as unfair trade practices and thereby bring to bear heavy pressures on trade partners. Although it was formally stated to be unrelated to the Trade Act, it was shortly after Japan was identified under Section 301 of that Act that US-Japanese conversations were begun under the Structural Impediments Initiative in order to overcome conflictive aspects of trade relations between the two countries. Thus, these unilateral tactics have resulted in a *quid pro quo* approach to bilateral negotiations which undermines the multilateral process, as well as an increase in product-specific protection in the US market. The Trade Act also reconfirmed an active private sector role in multilateral trade negotiations as well as specific trade remedy laws deriving from the "bottom-up" manner of dealing with anti-dumping concerns.

⁵ With regard to this point and the following paragraph, see Ostry (1990b, pp. 18-52) and Smeets (1991, pp. 66-69).

Table 4
**SELECTED OECD COUNTRIES: EXPORT MARKET DYNAMICS,
 1979 AND 1988**

Exporting Country	Share of OECD imports			Classification of exports (%)				Structure of exports (%)			
	1979	1988	Per-centage change	Op-timal ^a	Vulner-able ^b	Missed op-portu-nities ^c	Re-treat ^d	Natural re-sources	Energy	Manufactures	
										Natural re-source based	Non natural resource based
I. "Winners"											
Japan	4.63	8.15	76	80	4	11	5	-	-	4	96
Portugal	0.27	0.52	93	75	12	10	3	5	2	23	71
Canada	4.48	4.91	10	43	15	27	15	9	9	29	52
Italy	4.35	5.01	15	35	13	46	6	4	2	13	81
Greece	0.29	0.33	14	29	26	27	17	22	7	19	52
F. R. Germany	10.66	12.54	18	29	8	55	7	2	1	15	81
France	5.93	6.41	8	23	11	54	12	9	1	21	68
II. "Losers"											
New Zealand	0.32	0.31	-3	31	25	10	34	45	2	34	18
Netherlands	4.54	4.49	-1	24	14	41	19	14	11	27	49
United Kingdom	5.25	5.24	...	20	17	51	12	7	11	16	66
Australia	1.15	1.06	-8	18	57	6	18	38	19	27	14
United States	10.23	10.07	-2	11	8	66	15	12	3	13	71

Source: Based on F. Fajnzylber, "International insertion and institutional renewal", *CEPAL Review*, No. 44, August 1991, Table 2, pp. 142-143.

^a Favourable competitive position of products and high relative efficiency of country.

^b Unfavourable competitive position of products and high relative efficiency of country.

^c Favourable competitive position of products and low relative efficiency of country.

^d Unfavourable competitive position of products and low relative efficiency of country.

The example of the adjustment of the consumer electronics industry, which took place prior to the 1988 Trade Act, demonstrated that the US battery of trade management instruments, which included bilateral orderly marketing agreements and simple export quotas, was not then sufficient to save the industry (Jenkins, Sawchuk and Webster, 1989). The Trade Act captured the new perspective that was growing up among US TNCs facing import competition, that is to say, the need for "strategic" trade policy involving not simply protection but also "contingent" trade barriers for the home market in cases where foreign markets are protected (Milner and Yoffie, 1989). It represents a new kind of rear-guard action on the trade front by US TNCs in

respect of the US-Japan rift and the urgent need for industrial restructuring. The US is no longer the world's most enthusiastic champion of free trade, and it readily implements regional trade deals, bilateral arrangements, antidumping and countervailing duties and Section 301 actions in its trade relations (*The Economist*, 1992e, p. 72). Nonetheless, it has become clear that if US and European TNCs are to become or remain competitive, it will be by conscious industrial restructuring to improve international competitiveness, and not by home country trade restrictions or more managed trade in the motor vehicle and parts, semiconductor and machine tools industries or other strategic industries (*Fortune*, 1992b, pp. 96-97; Thurow, 1992).

III

Tendencies in foreign direct investment: globalization and regionalism

It is clear that important changes have also been taking place in terms of foreign direct investment. Global integration via trade flows was heavily reinforced in the 1980s by foreign direct investment flows, whose dynamism was superior to that of international trade and became a new engine of growth. As already mentioned, trade restrictions on imports often led to foreign direct investments on the part of the "aggressor". The process of transnationalization has produced simultaneous tendencies in terms of globalization and regionalism. It should also be kept in mind that over half of the trade flows of the US and Japan are related to foreign direct investment, that is, they are intra-firm TNC operations.⁶ One can conceptualize these tendencies in terms of global strategies on the part of the TNCs, on the one hand, and regional supply or sales networks, on the other. System tension or conflict has also arisen due to the changes taking place in terms of global FDI flows.

During the 1980s, the principal developments in terms of foreign direct investments included the following (CTC, 1991a, p. 2):

- The stock of world foreign direct investment trebled to US\$1 500 billion, compared with US\$500 billion in 1980.
- The European Economic Community became the most important source of foreign investment flows: US\$39 billion annually during 1985-1989.
- The US became the most important host country for foreign investment: US\$329 billion in 1988.
- The foreign investment of Japan increased six-fold to US\$111 billion.
- About 80% of world foreign investment is concentrated in the US, the EEC and Japan.

⁶Dennis Encarnation argues that Japanese companies dominate bilateral trade both ways between the US and Japan. The high level of Japanese TNC intra-firm trade and the relatively low level of US FDI in Japan are the principal causes of the persistent trade surplus in Japan's favour (Encarnation, 1992).

These characteristics of the foreign investment situation gave rise to the concept of the Triad, which was first used to convey the sense of concentration (67%) of world trade in the US, EEC and Japan (Ohmae, 1985) and is now found to be even more applicable to the concentration (80%) of the outward stocks of world foreign investment in those countries.

According to the United Nations Centre on Transnational Corporations (CTC, 1991b), there is a movement toward parity within the Triad. In the early 1980s, it would have been difficult to characterize the United States, the EEC and Japan as forming a Triad which dominated global foreign direct investment stocks and flows; the role of Japan was then relatively small, and the EEC was too fragmented, more a collection of 12 countries than an integrated regional economy. At that time, the United States was alone the single most important source and host country for foreign direct investment in the world economy. By the end of the 1980s, however, a Triad had indeed emerged, at least in terms of flow data. Behind this emergence of a tri-polar structure were the rapid growth of outward investment from Japan and the integration of the EEC, so that the latter now may properly be considered a single Triad member. While in 1990 the United States and the EEC were still jointly the most important Triad members, if current trends continue the EEC could eventually surpass the importance of the United States as the most important source and host region and Japan could, within the next decade, surpass the importance of the United States as a source country, likewise in terms of stock.

From a strategy point of view, the convergence of intra-Triad foreign direct investment relationships points to the growing importance attached to the Triad by TNCs. This strategy, often referred to as "globalization", means that TNCs are increasingly considering their non-domestic Triad activities to be as important as their home-country operations. The recent strategy of Japanese TNCs to become "regional insiders" in each leg of the Triad is motivated by

reasons of both efficiency (country specialization and regional economies of scale) and policy (extra-regional tariff and non-tariff barriers). If this strategy, which can be summarized as an obsession with markets rather than profits,⁷ proves successful, then the question arises as to whether EEC and US TNCs, in order to ensure competitive survival, will not also have to adopt a three-legged strategy, to cover each member of the Triad. The incentive to do so will be all the greater if regional trade blocs are strengthened in Europe, North America and Asia so that achieving "insider" status would be an important competitive advantage for gaining access to those markets.

In the context of such a scenario, the low level of investment by other countries in Japan stands out as a striking imbalance. This situation might eventually lead to increased pressures on Japan to open its economy to more foreign investment from the other two Triad members. It would also be likely that the EEC and, in particular, the United States, would respond to this potential competitive threat to their TNCs by utilizing strategic trade and foreign-direct-investment policy tools, in an attempt to attain a "level playing field" for their bilateral foreign-direct-investment relationships with Japan (CTC, 1991a, pp. 43-44).

The regional tendencies which have accompanied the global trend refer to two distinct phenomena. Firstly, there is the perspective within the globalizing "one world" view that its principal components are three in number—the US, Europe and Japan—and that they require regional considerations. Secondly, there is the nature of the various supplier and marketing networks that have grown up around each Triad member.

The importance of the regional tendency, in the first sense, is threefold. In the first place, globalizing

TNCs must develop and implement specific strategies for each major Triad market with regard to product design, marketing, distribution, supply networks, finance, trade, and foreign investment. Aside from dealing with market considerations concerning distinct consumer tastes and with differing Triad regulations on essentially technical topics such as product safety, entry-level or expanding non-resident TNCs must deal with potentially conflictive relations with host government rules on finance, trade and foreign investment.⁸ As Agosin and Tussie have noted, hitherto unnoticed differences in institutional practices and relatively small shifts in relative competitiveness can have significant effects on international trade and investment flows. In an era of man-made comparative advantages, locational competition between countries or regions has emerged as a new and increasingly more contentious form of competition (Agosin and Tussie, 1992, p. 11).

In the second place, the high technology industries which have become the focus of international competition are not evenly distributed across the Triad or the globe. This means that, in an international context of increased competition within the private sector, governments inevitably attempt to "boost" their national or regional champions and make life difficult for their competitors.⁹ These measures can range from wholesale government-assisted "targeting" of other Triad markets (as the Japanese Ministry of International Trade and Industry has done) to simpler government-assisted research and development programmes in specific areas (such as the European Strategic Programme for Research in Information Technology—ESPRIT, or the US initiative for semiconductor technology—SEMATECH). Thus, at the industry level the business/government interface is an important element in intra-Triad relations.

⁸ See, for example, CTC/UNCTAD, 1991. For an innovative treatment of investment-related trade measures, see CTC, 1992, Part III, chapter XI.

⁹ According to an OECD publication "there has in some cases been a noticeable convergence between the interests of multinational enterprises and those of national governments. The convergence is reflected in the fact that the struggle for market shares, especially in leading-edge sectors, now transcends competition between corporations, to embrace rivalry between the different national socio-economic environments in which enterprises operate—environments which largely determine the economy's competitiveness and which are shaped to an important degree by government policies" (see OECD, 1991, p. 8).

⁷ According to *The Economist* (1992d), Japanese pricing reverses Western practice. It is usual in the West to specify a product, then add up the cost of its components, including overheads and profit, to arrive at a selling price. Most Japanese companies, however, start with a target market share; they then estimate what price will enable them to reach that share, after which they work backwards to push down the cost of everything that goes into the product, until the price is met. This tends not only to drive down costs but also (because it makes everyone re-think his bit of the product) to speed up innovation.

In the third place, the three Triad members have the strongest voices in defining the rules of the game with respect to the multilateral system, whether by way of the General Agreement on Tariffs and Trade (GATT), the Organization for Economic Cooperation and Development (OECD), the Bank for International Settlements (BIS) or the United Nations system. Increasingly, national or regional policies on exchange rates, interest rates, import protection, competition, external financing, etc. have tended to converge to a certain degree and have been the subject of periodic discussions by the Group of Seven industrialized countries (US, Canada, Germany, France, UK, Italy and Japan). Policy changes by Triad members in these areas could be very disruptive for the existing international macroeconomic situation, as witness

the decline of the dollar versus the Deutschmark and the Yen since 1985.

The relevance of the regional tendency within the Triad is that it highlights the importance and differential nature of the TNC/government interface at different levels: the corporation, the industry and the country or bloc. That assists in identifying the areas of possible system conflict within the Triad. One major source of possible conflict would be differing US and Japanese sensibilities regarding FDI. For example, the Japanese *keiretsu* system essentially keeps outside TNCs from operating successfully in the Japanese market, while Japanese TNCs are seen to be gobbling up US competitors in the United States through takeovers and mergers (Julius, 1991, p. 13).

IV

Final considerations

It is worth briefly analysing at this point the new nature of international competitiveness. A good beginning would be to rely less on classical trade-centered theories on comparative advantages of nations according to simple factor endowments and give more weight to the analysis of the new situation from the point of view of the competitive advantage of firms, emphasizing the importance of research and development, innovation and technology (Agosin and Tussie, 1992; Teece (ed.), 1987).¹⁰

The new situation is most clearly manifest in two separate and distinct areas. First, in strategic and technologically-sophisticated "leading edge" industries, such as microelectronics, biotechnology, new materials, robots/machine tools, computers/software, telecommunications, etc., competitive advantage is for the most part created by way of huge research and development investments and strategic alliances among advanced-technology TNCs. Siemens is a good example here, as figure 4 suggests.

Second, for the mature scale-based mass-production industries presently undergoing restructuring, such as automobiles, consumer electronics, textiles,

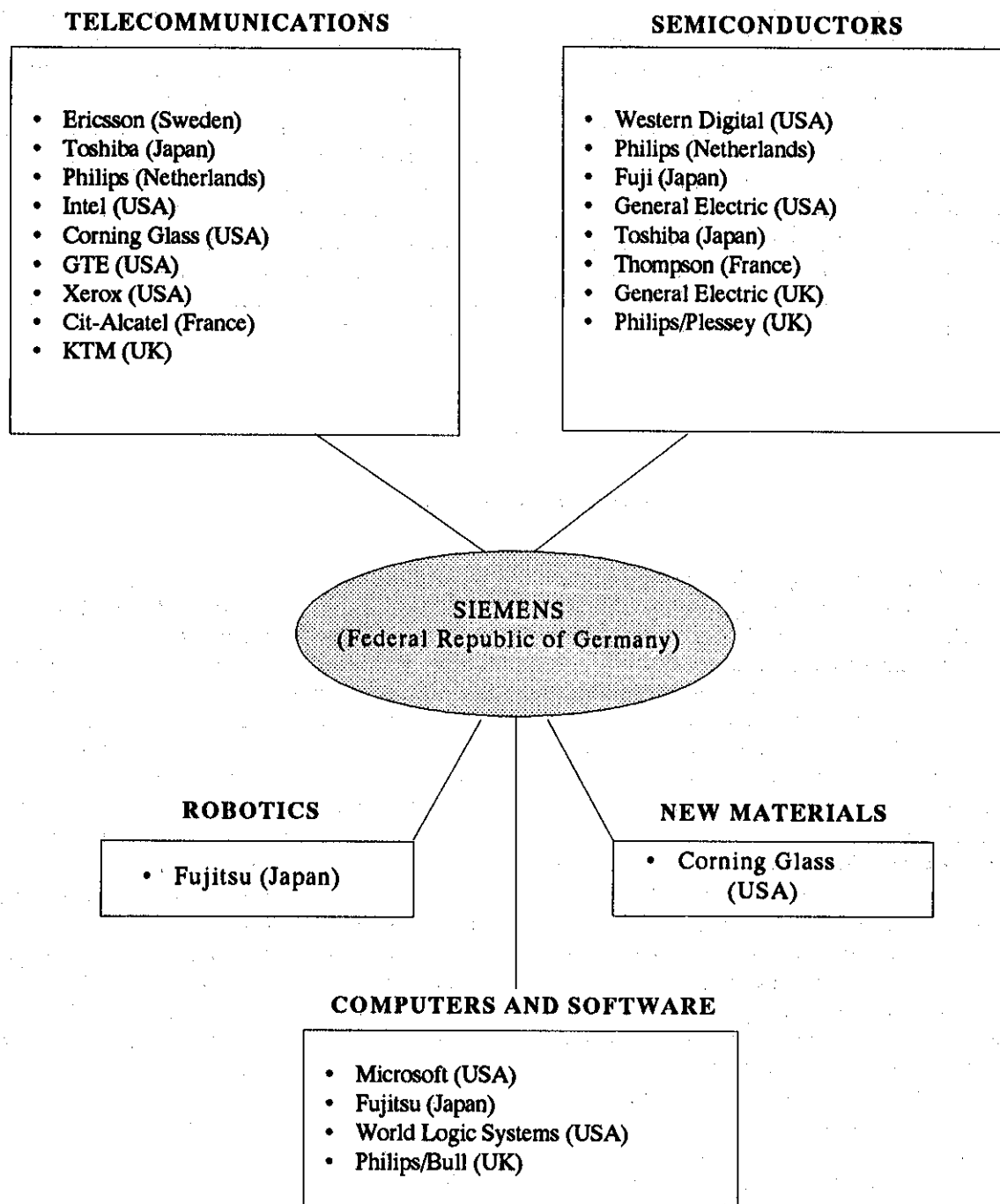
iron and steel, etc., competitive advantage is in large part acquired, through a mixture of technological advance and organizational innovation. A UNCTC publication on this subject maintains that the new best-practice manufacturing system has three broad dimensions. The first is technological and relates to the use of flexible, integrated automation technologies in all aspects of a firm's activities. The second dimension is the incorporation of new management forms and production organization within firms, to permit the attainment of the standards of quality and flexibility now demanded by the marketplace. The third dimension encompasses a new set of relations between firms and their suppliers, based on cooperation and trust and reflecting a sharp break with the adversarial relations of the past. As the broad outlines and principal features of the new system are now becoming clear, it is likely that they will fundamentally influence international competition and economic development in the coming decades (CTC, 1990, pp. 2 and 9).

This new international competitiveness is also manifest in the increasingly footloose nature of international production by "global" TNCs¹¹ and

¹⁰ See *The Economist*, 1992a, pp. 17-20.

¹¹ See, for example, *Fortune*, 1991c, or *Business Week*, 1990.

Figure 4
SIEMENS A.G. AND ITS MAIN INTERNATIONAL COOPERATION
AGREEMENTS IN THE PERIOD 1984-1987



Source: United Nations Centre on Transnational Corporations (CTC), on the basis of annual reports of the firms and other publicly available information. The information includes joint ventures in the area of research and development and granting of licenses and subcontracting in the area of production (quoted in CTC, 1989).

the growing role of foreign direct investment (Cantwell and Dunning, 1991). A Group of Thirty report suggests that foreign direct investment now possesses the same potential for increasing growth and efficiency as that displayed by international trade in the 1950s and 1960s (Julius, 1991, p. 22). The increase in outsourcing by TNCs also reflects the global streamlining and/or specialization undertaken by internationally-competitive transnationals (*The Economist*, 1988, pp. 81-82, and 1991a, pp. 57-58).

In terms of the competitive advantage of nations, Porter points out that it is necessary to concentrate on specific competitive industries and industrial segments, that the only meaningful measure is productivity and that, when all is said and done, a nation's competitiveness depends on the capacity of its industry to innovate and upgrade (Porter, 1990a, pp. 73 and 84-85). Ergas, for his part, identifies three principal sets of factors which help explain the differing pace of innovation among countries: i) those that affect the inputs into innovation, such as the quality of a country's scientific base, the presence of research institutions and, above all, its educational level; ii) those that influence demand, such as receptive and sophisticated customers calling for constant innovation; and iii) an industrial structure that combines opportunities for intense competition with some mechanism to enable firms to share the financing and diffusion of scientific research (*The Economist*, 1992b, p. 21). Fajnzylber suggested that seven relevant indicators of international competitiveness, dealing mainly with exports of manufactures, growth of productivity and research and development expenditures, demonstrated that a comparison of Japan, Germany and the US left Japan in first place, Germany second, and the US in third place (Fajnzylber, 1988, pp. 11-12). That seems to adequately reflect most opinions on the subject. It also indicates the central source of system friction.

In summary, available statistics and other information on foreign trade and investment suggest that

discernible trends in terms of globalization, specialization and regionalism are creating a new international context for competition. A one world/three poles perspective has helped promote convergence in respect of certain fundamental principles of international relations; however, that tendency has also been accompanied by one of increased system tension or friction, due to the fact that international competition for the first time is increasingly characterized by a head-on struggle by firms in the same industries for the same main markets, rather than a search for market niches. In essence, a thousand or so dominant TNCs are disputing half a dozen technologically-sophisticated industries, together with another half dozen which are undergoing active restructuring, and are focussed on the US, European and Japanese markets. The situation of the principal actors is not the same, however. The Japanese and German examples of cooperative managerial capitalism seem to be gaining the upper hand in the international competition with US competitive managerial capitalism, and the competitive edge of Japanese and German industrialization is obliging US industry to react, that is, to restructure, in order to remain competitive. This is a situation qualitatively distinct from the industrial restructuring that took place in Western Europe in the 1950s and apparently is likely to take place in Eastern Europe during the 1990s. The situation is complicated, and the result has been system friction among the dominant countries.

This is the outline of the new international industrial order. In the context of a broad consensus on the central features of the contemporary political economy, increased competition among the dominant transnational corporations operating in the more dynamic industries is generating friction and conflict among the governments of the principal industrial countries. It is not at all clear whether these governments possess the capacity, the will or the foresight to deal actively with the situation, or whether it will be left to the market and "business" to settle the matter.

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