BOOK REVIEWS

Transfer of Japanese Technology and Management to the ASEAN Countries
Shoichi Yamashita, ed.
(Tokyo, University of Tokyo Press, 1991), 312 pages.

The ability to export technology is the ultimate test of a country's competitive position in the global economy. While relatively industrialized even at the turn of the twentieth century, Japan became an aggressive technology importer soon after World War II. Its technology-import strategy, a well-defined, organized and coherent policy implemented with bureaucratic zest, became the envy of latecomers to industrialization, many of whom tried to emulate the "Japanese model" of technology acquisition. While that emulation continues, a relatively new chapter has opened in Japan's economic history over the past two decades. As Japanese firms have ventured into the global arena, they have begun to transfer their technology to other countries, transforming Japan into a major technology export power house.

Technology exports from Japan have thus become commonplace. While the spread of technology from Japan has been nearly global, its neighbours have been the major beneficiaries, due not only to convenience and cultural, geographic, political proximity but also to the proactive role of the Government of Japan.

In *Transfer of Japanese Technology and Management to the ASEAN Countries,* Shoichi Yamashita and his collaborators provide a rare and varied glance at this phenomenon. Their research project, begun in the mid-1980s, tracks Japan's foreign direct investment (FDI) in the ASEAN countries and, more importantly, chronicles the experiences of Japanese firms' transfer of technology and managerial know-how to Thailand, Indonesia, Malaysia and Singapore. The book under review consists of papers presented at a conference at Hiroshima University in 1989. The first part of the book contain papers on Japanese FDI while the second part consists of six papers focused more closely on the transfer of Japanese technology to four ASEAN countries. The Philippines and Brunei, the other two ASEAN members, are not covered.

Many of the book's conclusions are fleshed out in the case studies of technology transfer to Thailand, Singapore and Malaysia. For one thing, according to the editor: "The export-oriented industrialization policies of ASEAN countries coincides with the global strategies of Japanese corporations" (p. vii).

However, the complexity of technology transfer is also to be taken seriously: "There are substantial differences between the management methods of Japanese-owned overseas companies and those of European and American overseas subsidiaries or local industries" (p. ix).

The book also explores the relationship between FDI, technology transfer and foreign exchange fluctuations. It contends that the appreciation of the yen in the late 1980s served as a stimulus to the outflow of technology to ASEAN. The new round of yen appreciation in the 1990s, one might add, is likely to accelerate FDI flows and the concomitant technology flows to ASEAN countries in the near future.

Another theme captured by the book is the occasional ambivalence and tension in the technological relationships between Japan and it's neighbors. The editor notes in the preface: "During our research into Japanese-affiliated companies operating in the ASEAN countries we learned that while they have made substantial contributions in the form of the creation of employment opportunities, foreign exchange earnings, technology transfer, and promotion of industries in related fields, these companies have also been responsible for new friction . . .[caused by] . . .the inexperience and incomplete knowledge of international business operations in Japanese companies, as well as the insensitivity and what is sometimes seen as arrogance of their staff... " (p. ix). And : "[W]hile they have made substantial contributions in the form of the creation of employment opportunities, foreign exchange earnings, technology transfer, and promotion of industries in related fields, these companies have also been responsible for new friction" (p. ix).

These and other references to mixed results, friction and perception gaps (p. 19) are corroborated throughout the book. One example is a reference to "a serious information gap between the Thai and Japanese people regarding the understanding of this concept [technology transfer]" (p. 199). Another is from the Malaysian case study: "Japanese businesses have had problems in the process of globalization because they started later than their European and American counterparts" (p. 266). Elsewhere, it is contended that ASEAN people are "different from Japanese with respect to race, culture, and religion, which makes them differ also with respect to ways of life, and value systems" (p. 292). Since local subsidiaries are more in tune with local cultural nuances, "the headquarters in Japan must try to attain a deep understanding of the local environment, and become more internationalize, so that they can adapt Japanese-style management to local conditions" (p. 293). This point is made elsewhere in the book as well:

> "The Japanese-style managerial system without modification and rectification is not suitable for such heterogeneous societies strongly influenced by Western cultures such as Singapore...Japanese-style management must be internationalized and localized if it is to make greater positive contributions toward Singapore's rapid economic development" (pp. 115-116).

The book has the characteristic strengths and weaknesses of edited volumes. Some chapters are rich in details and insight, while others are more pedantic. Some discussions which follow papers also contain interesting insights. One example is Ichiro Sato's discussion of Prayoon Shiowattana's paper (chapter 8) on Thailand's electronic industry. Noting the low local content of Thai-made television sets (30 per cent), Sato compares this with 100 per cent local content for electric fans, 80 per cent for refrigerators and rice cookers, 60 per cent for automobiles and 75 per cent for motorcycles, concluding that this high local content is due to successful technology transfer. He thus refutes Shiowattana's more guarded conclusions.

While some of the writing is tedious, the quality and coverage somewhat uneven, the emphasis on the policy dimension rather inadequate and some of the graphic presentations rather cumbersome, there are useful lessons for countries of South-East Asia, still major technology importers. Equally important lessons can be gleaned from the case studies, analysis and discussions of this book by Japanese technology exporter as well as those studying transnational corporations and their technology transfer strategies. ■

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Direct Investment and European Integration
Stephen Thomsen and Stephen Woolcock
(New York, Council on Foreign Relations Press, 1993), 123 pages.

Recently a group of economists has taken a keen interest in the analysis of the location of economic activity (Krugman, 1991). This is partly due to the realized or potential surge of regional economic integration arrangements, such as the Single European Market, NAFTA and ASEAN. With increasingly free movements of goods and services (including foreign direct investment (FDI)) across national boundaries within a region, economists need to look at regional issues not only from a traditional national point of view but also from a transnational, geographical viewpoint. At the same time, with recent developments in industrial organization theory, economists are now properly equipped with a set of tools with which they can rigorously analyze some regional phenomena such as horizontal and vertical integration and intra-industry and intra-firm trade within a region.[1] While traditional international trade theory is hard pressed to explain intra-industry or intra-firm trade and FDI between two nations with similar factor endowments, a new trade theory based on increasing returns to scale and imperfect competition gives rise to complementary and, often, more plausible explanation for the causes of international trade and the concentration of industrial activities.[2]

Direct Investment and European Integration appears in the midst of this renewed interest in regional phenomena and supplies substantial empirical evidence against which the "new school" of international economists could test their hypotheses. The main findings of this book are summarized and analyzed in the following from the view point of this new framework of international trade theory.

Stephen Thomsen and Stephen Woolcock address two themes in their book. One "is the notion that much of the [foreign] direct investment within Europe represents an increase in competition among firms as they venture beyond their own sheltered markets"(p. 4). The other "is the way in which governments must compete more and more through their policies to attract footloose firms"(p. 4). The authors look at FDI as a vehicle which increases competition not only among firms but also among Governments, workers and even

[1] For a textbook treatment of industrial organization, see Tirole, 1989.

[2] For the recent development in international trade theory, see Krugman 1985, Helpman and Krugman 1987 and the introduction by Grossman in Grossman, 1992.

economic systems. While the integration of the Western European market intensifies all forms of competition, patterns of competition-enhancing FDI will provide a clue for analysing potential outcomes of integration. Thus, the title of this book. Though the authors do not discount the importance of trade in enhancing competition within Western Europe, they suggest that FDI is often a more effective way to penetrate foreign markets.

Throughout the book, the authors look at the extent to which data on FDI in Western Europe provide an indication of a possible relocation of economic activities within the Single Market. They find that intra-regional trade, the majority of which is taking place within clusters of countries,[3] and the amount of FDI in the region over the past few years, (occurring primarily in intra-industry mergers and acquisitions within the clusters), cannot be explained by the differences in labour cost or Government regulation. The authors conclude that intra-European trade and FDI do not represent a net transfer of resources based on the comparative advantage of each country and that national markets matter even as the European Commission breaks down trade barriers that seem to segment markets artificially.

To explain this trend, they stress the importance of market size and market proximity; the latter is measured by what the authors call the distance cost:[4] a company invests where there is a strong actual or potential demand for its product and where a host country shares a common border or language with the company's home country. In other words, these demand-based, rather than resource or supply-based, strategies are predominant in intra-European FDI. The authors call this market-based investment. They utilize various data and econometric analysis based on reduced-form equation derived from gravity model to support their argument, with a supplemental analysis of FDI inflows to Europe from the United States and Japan. It is suggested that such FDI is most likely to affect existing market clusters rather than the Single Market as a whole. Because of these findings, the authors are hesitant to use the word "globalization" when they refer to an ever-increasing internationalization of business. According to them (p. 9), "the term conjures up images of firms released from the bonds of geography and hence is at odds with the more prosaic reality of FDI".

[3] The authors call the phenomenon that some countries dominate investment flows within their respective regions "clustering", a term also used in the *World Investment Report 1991* (1991).

[4] Distance costs are defined as the penalties imposed on an exporter by being far removed from the final market for its products. They include costs associated with language barriers, non-tradability, sophistication of the product, reliability, marketing expenses etc. Though the costs are generally understood as transaction costs in economics, the authors introduce this terminology to emphasize the importance of cultural and geographical proximity.

As for FDI policy, the authors recommend that the European Community (now European Union) should devise actions that are required to facilitate market-based investment and be armed with an activist competition policy. To derive the greatest benefit from competition-enhancing FDI, it is indispensable not only to break down trade and investment barriers but also to remove existing structural impediments such as monopolistic or oligopolistic market structures, state ownership, heavy regulations and favourable treatment towards domestic firms in relation to foreign-owned ones. The authors, however, caution that, though the increase in cross-border mergers and acquisitions certainly increases the potential for competition, there is always a risk that this initial competitive impulse could lead to a regional oligopolistic structure. Here we find the *raison d'être* for an activist competition policy.

Although the authors praise the European Union for developing a policy against restrictive business practices, cartels and the abuse of market dominance (Articles 85 and 86 in the Treaty of Rome), they question the application and implementation of these regulations.[5] The authors also think that two different approaches towards merger control regulation, namely competition-based and industrial policy approaches, are likely to continue to divide the Union. The challenge the Commission is facing is to implement sufficiently flexible policies to enable merger controls to be effective, while limiting itself to use Union-level merger control as an industrial policy. To achieve these objectives, the authors suggest that the Commission should not act as judge and jury in competition policy at the same time; thus, it should delegate one of the two functions to another existing or new institution. In this way, flexibility and transparency of regulation will be insured. They also insist that an institutional framework must be created before a Europe-wide oligopolistic structure takes place.

How can one interpret their findings within the framework of the new trade theory? As for trade, the theory predicts that the relative importance of intra-industry trade is rising as the industrial countries become more similar in their factor endowments (Helpman and Krugman; 1985, Krugman; 1985).[6] Since most Western European countries are far more similar to each other in their capital-to-labour ratios than they are to developing countries, the theory fits quite well with this finding. It should be noted, however, that the argument for rising

[5] Some 60-70 merger cases have been submitted to the Commission to date, but only one of them has been blocked.

[6] One should note, however, that, depending on the definition of industries, intra-industry trade may become inter-industry trade. Caution is required in interpreting and applying theory.

intra-industry trade is based on monopolistic competition *à la* Chamberlin (1963) and individuals' desire for variety in consumption goods.

As for FDI *per se,* the theory does not have much to say. However, if an intra-industry merger relates to an internalization decision of a firm, Wilfred J. Ethier (1986) provided some scope for this phenomenon. In his model, the reason for a firm to internalize stems from asymmetries of information — information gaps — that exist across corporations (i.e., a firm does not possess some information that another firm does and *vice versa)* and from the difficulties in writing state-contingent contracts[7] when the two firms deal with an arm's length contract. Internalization enables a firm on the buying side to response efficiently in its operations to contingencies arising from the activities of its research and marketing in a host market. In a sense, the firm becomes more competitive in the host market by internalizing its international transactions. Interestingly, his model predicts two-way FDI between countries similar in factor endowments, and an increase in the extent of transnational activities and intra-industry trade increase as the factor endowments of two countries become more alike.

Finally, the clusters of countries and the importance of market proximity suggested in this book can be comprehended in the framework of Paul R. Krugman (1991).[8] Krugman emphasized the importance of transportation costs in explaining the phenomenon of the concentration of economic activities. If transportation costs are replaced with distance costs,[9] it is worthwhile for a firm to concentrate its production with better access to a market, even with higher production costs.

Direct Investment and European Integration develops the idea of geographical clusters of trade and FDI and thoughtfully argues for the increasing importance of intra-industry trade and FDI. Some may object to the authors' emphasis on the geographical characteristics of trade and FDI and may argue that business strategies are certainly fostering globalization. Even so, this study clearly shows that we have not yet been fully freed from the bound of geography.

On the other hand, though it may not have been the authors' intention, the book provides empirical support for the new trade theory, in which empirical study has lagged. The theory does not provide a full account of all the findings in this book but, yet, the findings are generally consistent with the predictions of the theory.

[7] That is, the contract is conditional upon the results of market demand, research activities or, more generally, state of nature which characterizes an underlying economic environment.

[8] The authors are well aware of Krugman's study on geography and trade; see p. 42.

[9] Transportation costs are included in distance costs in *Direct Investment and European Integration.*

This book should be read not only by those who are students in the area of TNCs and FDI, but also by all who are interested in international economics. ■

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Beyond Free Trade, Firms, Governments, and Global Competition
David B. Yoffie, ed.
(Boston, Massachusetts, Harvard Business School Press, 1993), 466 pages.

A neo-classical paradigm has dominated explanations of international trade and investment for more than a century. Its expression in trade theory is the Heckscher-Ohlin (H-O) model that derives national comparative advantage from dissimilar national factor endowments of land, labour and capital. Countries export products whose production uses relatively large amounts of their abundant factors of production and import products whose production uses relatively large amounts of their scarce factors of production. Critical assumptions of the H-O model are perfect competition, the absence of technology gaps among countries, and the international immobility of productive factors. The expression of the neo-classical paradigm in investment theory is the portfolio investment model that explains international capital movements by interest-rate differentials among counties. Capital moves from countries with low interest rates to countries with high interest rates.

Changes in the world economy since the Second World War — notably the extraordinary growth of transnational corporations (TNCs) in oligopolistic industries — have weakened the neo-classical paradigm as an explanation of international trade and investment patterns. Many anomalies — departures from patterns that should occur according to the model — have cast doubt on the paradigm. For instance, the H-O model predicts that trade takes place between countries with dissimilar factor proportions. And yet, over two-thirds of the exports of the industrial countries go to other industrial countries with similar factor endowments. Moreover, much of the trade among industrial countries is *intra-industry* trade, that is, trade in which countries both export and import products belonging to the same industry. Even more striking, much intra-industry trade in *intra-firm* trade among TNCs and their foreign affiliates. Indeed, by assuming away technology gaps, oligopoly and international factor mobility, the H-O model denies the mere existence of TNCs. The portfolio investment model fails to explain foreign direct investment (FDI) by TNCs, particularly the phenomenon of cross-investment which occurs when (say) a United States chemical firm invests in (say) Germany at the same time as a German chemical firm invests in the United States. As is true of trade, the bulk of FDI moves between industrial countries with similar capital and other factor endowments. When the neo-classical assumption of perfect competition is dropped to allow for oligopoly, technological innovation and product differentiation, then the individual firm becomes an autonomous actor whose market power can shape patterns of international trade and investment.

The failure of the neo-classical paradigm is the rationale for *Beyond Free Trade* which reports on a research project intended to find out why trade patterns diverge from prior expectations and what market imperfections are created and/or exploited by Governments and firms. This book, then, is an effort to explain international trade at the firm and industry levels in the light of structural shifts, the new role of firms and the growing intervention of Governments. The project comprises studies of eleven industries, representing about ten per cent of world trade: automobiles, bearings, personal and mainframe computers, construction equipment, insurance, minerals (nickel, copper and bauxite), semiconductors, colour television and telecommunications equipment. In addition to historical research, the nine authors conducted nearly 500 interviews of executives in Japan, North America, South America, South-East Asia and Europe.

The individual industry studies are classified in a framework depicted by a four-cell matrix whose vertical axis measures global concentration of an industry (low/high) and whose horizontal axis measures Government intervention in an industry (low/high). The resulting four patterns of international competition are (1) comparative advantage (low concentration/low intervention); (2) oligopolistic competition (high concentration/low intervention); (3) regulated competition (high concentration/high intervention); and (4) political competition (low concentration/high intervention). Part I examines regulated competition in semiconductors, computers, telecommunications and automobiles; Part II looks at oligopolistic competition in bearings, construction equipment, and minerals; and Part III takes up political competition in the insurance industry.

Although this framework helps to integrate the industry studies, each study takes a different perspective, making generalizations difficult. Nonetheless, the editor in a final chapter draws general conclusions and implications. He infers that the industry studies demonstrate the insufficiency of country factors to explain shifts in corporate and national competitive positions. To understand the nature of global competition, it is also necessary to explore the structure of global industry, the level and style of Government intervention, the characteristics of leading firms and the inertia of history. This inference is then elaborated in terms of the four patterns of international competition. For industries in the *comparative advantage* cell with few market imperfections and low Government intervention (personal computers about 1990), the most important drivers of competition are country factors. Government intervention in such industries is seldom successful. In the case of *political competition* (the insurance industry), Government intervention can only supplement — not alter — the economies of comparative advantage. Hence, the H-O model provides a satisfactory explanation of the trade of fragmented industries in these two cells.

In contrast, the main drivers in *oligopolistic competition* are industry structure and the decisions of individual firms in export and FDI. The weakest performers in this cell have been firms that stayed at home or refused to challenge competitors head on (such as Zenith in the United States television industry).

In *regulated competition* — telecommunications, semiconductors, mainframe computers — Government intervention can manipulate or even directly determine the direction and volume of international trade. The interaction of business strategies, Government policy and industry structure are the key drivers of global winners and losers. Studies of industries in this cell show that infant industry policies can work (witness Japanese policy in mainframes and semiconductors) when they limit the role of dominant foreign firms in the domestic market and also provide incentives for exports. David B. Yoffie concluded that a good case can be made for strategic trade policy in oligopolistic industries featured by high technology with research and development spillovers and by dynamic learning economies. But it is difficult to reconcile this statement with the findings of the semiconductor study undertaken by David B. Yoffie and Laura Tyson. Although the Semiconductor Trade Agreement between the United States and Japan seems to have improved access of United Sates firms to the Japanese market, it did not boost the United States exports to Japan because United States firms supplied the Japanese market from production centres in Japan and third countries. It remains a question, therefore, as to whether the United States economy (including consumers) has gained from benefits accruing to United States transnational semiconductor manufacturers.

This reviewer is puzzled by the title *Beyond Free Trade*. This title implies that market imperfections (such as oligopoly) are incompatible with free trade. But free trade is an argument for open, competitive international markets that encourage innovation, lower costs and create consumer benefits. When market imperfections lessen competition, the first-best remedy is to make markets more competitive by removing the imperfections. Indeed, on both theoretical and empirical grounds, the adoption of free trade should bring larger welfare gains when markets are imperfect than when they are perfect. This book does not examine the welfare issues at the core of free trade argument; it looks only at the effect of Government intervention on the competitive behaviour of firms. Because the industry studies do not address the case for free trade (or for that matter, the case for protection), the title is misleading. An accurate title would be "Beyond Neo-classical Comparative Advantage." Of course, that title would not have the eye-catching appeal of the actual title.

The contribution of this book consist of the empirical industry studies that trace the influence of national economies, firms (mainly TNCs) and

Governments in shaping international trade and investment patterns. As such, it should be welcomed by scholars in international economies and business and by officials involved in issues relating to international trade and investment policies. In my judgment, these studies demonstrate that it is a mistake for Governments to protect industries in ways that make them less competitive in international markets. The burden of proof remains on those who advocate Government intervention. These studies also show that the domination of many global industries by a small number of TNCs makes the effectiveness of Government trade and investment policies contingent on the responses of such firms whose decision-making processes are seldom understood by officials. We badly need, therefore, studies of how TNCs *respond* to Government policies.

Beyond Free Trade makes no effort to construct a new paradigm of international trade and investment. But it adds to the accumulation of anomalies forcing the creation of a new paradigm that would explain international trade at both national and corporate levels, comprehending the behaviour of the TNCs operating in imperfect factor and product markets in a global economy of dissimilar national factor and market endowments. Such a paradigm would offer valuable service to Government policy makers and corporate managers in guiding their decisions and in strengthening their resistance to the appeals of special interests. ■

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