

A Shift from Market-led to Institution-led Regional Economic Integration in East Asia

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I. Introduction

Globalization of economic activities has been accelerating rapidly as cross border movements of goods, money, information, and people have expanded remarkably in recent years. Although globalization has allegedly brought some negative consequences such as widening income gaps among the countries as well as within countries, on the whole it has brought positive impacts such as rapid economic growth and technological progress. One factor that contributed to globalization is substantial trade liberalization, which was carried out under the auspices of the GATT/WTO.

Up against rapid globalization, regionalization, or regional economic integration, has emerged in various parts of the world in recent years. Regionalization takes two forms. One type of regionalization arises as a result of natural economic developments in that the benefits of agglomeration including economies of scope, scale, and speed outweigh the costs of agglomeration such as congestion. Indeed, rapidly growing economies in proximity interact each other through market and non-market channels to accelerate their economic growth. The other type of regionalization involves institutional arrangement such as regional trade agreements (RTAs) including free trade agreements (FTAs) and customs unions. RTAs are discriminatory trade agreements, providing only members with preferential treatment. The former type of regionalization may be characterized as 'market-led,' while the latter 'institution-led.'

Rapid economic growth in East Asia has increased its importance in the world economy in the post WWII period. As a consequence, East Asia has become to be recognized as important region, which influences the world economy, along with North America and Western Europe. Regional economic integration in Western Europe started in the early post WWII period, mainly in the form of establishing regional institutions, while regional economic integration in North America was initially developed through market forces, and then it was supplemented by the regional institution.

In light of these global and regional developments, this paper examines the pattern of regional economic integration in East Asia. The paper focuses on foreign trade and FDI patterns in the region and it attempts to identify the factors that have promoted regional economic integration. It ends with the discussions on recent developments in the formation of regional institutions in East Asia.

II. Rapid Expansion of Foreign Trade and Foreign Direct Investment in East Asia

II.1 Foreign Trade

Foreign trade and foreign direct investment (FDI) of the East Asian economies expanded rapidly beginning in the mid-1980s until the outbreak of the East Asian

financial crisis (Table 1 and Figure 1). Between 1985 and 1997, exports from emerging East Asian economies expanded steadily to register an almost fivefold increase, before declining in 1998 as a result of the crisis. The rate of expansion was particularly high from 1986 to 1988, when the annual rate of growth exceeded 20 percent. The 1990s saw fluctuations in the annual rates of growth, with a peak at 22 percent in 1995 followed by a decline, resulting in negative growth in 1998. The patterns of export growth for the 1985–99 period are similar for all emerging East Asian economies, with few exceptions. Compared with the four newly industrialized economies (NIE-4, i.e., Hong Kong, Korea, Singapore and Taiwan) and the core Association of Southeast Asian Nations (ASEAN) economies (Indonesia, Malaysia, the Philippines, and Thailand), China registered a significantly higher growth rate in the 1990s. Compared with the emerging East Asian economies, Japan fared less favorably in terms of export expansion, as Japan's exports increased only 2.4-fold between 1985 and 1997.

As a result of rapid export expansion, East Asia increased its share of world exports from 9 percent in 1980–85 to 18 percent in 1997, before declining slightly in 1998. As a group, the NIE-4 expanded their share from 5 percent in 1980–85 to 10 percent in 1997. China became the largest exporter among the emerging East Asian economies in 1999, accounting for 3 percent of world exports. Although still maintaining a substantial share in world exports, Japan's share in world exports declined from 10.3 percent in 1986 to 7.2 percent in 1998 because of relatively slower growth.

One notable development was the rapid expansion of manufactured exports. Specifically, the share of manufactured products in total exports for the NIE-4 and the ASEAN-5 increased from 71 percent and 18 percent, respectively, in 1980 to 87 percent and 60 percent in 1995. For China, the corresponding share increased from 67 percent in 1990 to 79 percent in 1995.

Similar to the case of exports, imports to emerging East Asian economies increased substantially in the 1980s and 1990s before the crisis. Specifically, their imports increased 6.5 times between 1980 and 1997, before a decline in 1998 due to the crisis. Among the emerging East Asian economies, Hong Kong achieved especially a large increase of an almost tenfold increase during the 1980-97 period. Hong Kong is followed by China and Malaysia, whose imports increased 7.3-fold. In contrast to the emerging East Asian economies, which achieved remarkable import expansion, Japan saw its imports only doubled in seventeen years from 1980 to 1997. Indeed, it should be noted that the magnitude of Japan's imports was comparable to that of the emerging East Asian economies in the early 1980s, but in the late 1990s it was almost one-third of the imports of the emerging East Asian economies.

The rapid expansion of imports by the emerging East Asian economies resulted in the increase in their share in world imports, from 8.1 percent in 1980 to 18 percent in 1997. Contrasting to the increased share by the emerging East Asian economies, Japan's share in world imports declined from 7.4 percent in 1980 to 5.1 percent in 1998, before a slight increase in 1999.

An examination of foreign trade by East Asian economies revealed a substantial increase in both exports and imports in the 1980s and 1990s before they were struck by the financial crisis in 1997. We also observed somewhat contrasting developments between the emerging East Asian economies on the one hand and Japan on the other hand. Emerging East Asian economies, particularly China in the 1990s, registered a remarkable growth, while Japan achieved a less spectacular performance. As a result of rapid trade expansion by East Asian economies, their share in world exports and imports increased from 15 and 15 percent in 1980 to 25 and 21 percent in 1999, respectively. A large part of the increase was achieved by the emerging East Asian economies, although Japan still has a substantial position, amounting to about one-third of trade conducted by all East Asian economies. It is worth noting that the magnitude of exports by East Asian economies was twice as large as the magnitude for the US and approximately 65 percent of the value for the EU in 1999, while the corresponding values in terms of imports were 114 and 56 percent, respectively. These observations indicate that East Asia represents a significant position in world trade.

II.2 Foreign Direct Investment

FDI inflows to emerging East Asian economies grew at a remarkably high rate from the mid-1980s to 1998, significantly faster than exports. Indeed, FDI inflows increased more than 12 times in the 12 years from 1985 to 1999 (Table 2 and Figure 2). Unlike exports, FDI inflows continued to grow throughout the period. As result of this rapid expansion, the share of emerging East Asian economies in world FDI inflows increased from 8 percent in 1985 to 22 percent in 1994, before declining sharply to 9 percent in 1999. China increased its share in world FDI inflows from 3 percent in 1985 to 14 percent in 1994, though the share declined to 4 percent in 1999. Despite this decline, China was the largest recipient of FDI among emerging market economies and the third largest recipient in the world, behind the United States and the United Kingdom, in 1999. Compared with emerging East Asian economies, Japan received very small amount of FDI inflows throughout the period, although it began to register sizeable amount in recent years. East Asia increased its share in world FDI inflows in the pre-crisis period up to 1997 as the share increased from 7.6 percent in 1985 to 19

percent in 1996 before declining in 10 percent in 1999. The share of East Asia in world FDI inflows is significantly smaller when compared to the case in foreign trade. Indeed, the corresponding shares of the US and the EU in world FDI inflows are much larger at 30 and 40 percent, respectively in 1999.

Two developments are important concerning recent FDI in emerging East Asia. One is its resilience even during the period of economic crisis. Compared with other forms of international capital flows such as bank lending, which declined precipitously before and after the crisis, FDI inflows remained relatively stable in emerging East Asia, even in those economies that were seriously affected by the crisis. Another important development is the increase in mergers and acquisitions (M&As) as a mode of entry, particularly after the economic crisis (United Nations 1999). Historically, green-field operations used to be a preferred mode of entry for multinationals in East Asia, mainly because of restrictions on equity participation. The economic crisis changed this. Emerging East Asian economies with a keen interest in attracting FDI relaxed the restrictions. Coupled with relaxation of the FDI regime, the huge decline in the values of East Asian currencies and assets encouraged multinationals to undertake M&A.

Turning to FDI outflows from East Asia, one finds that East Asian economies with the exceptions of Japan and Hong Kong have not been large investors. Although Hong Kong registers a sizeable FDI outflows, it may not be considered as a large investor because a substantial amount of FDI outflows from Hong Kong originates in other countries. One finds a dramatic decline in the position of Japan as an FDI supplier in the 1990s. In 1990 Japan was the world largest FDI supplier as it supplied 20 percent of world FDI outflows. However, in ten years its share declined to less than 3 percent.

II.3 Rapid Globalization of Economic Activities in East Asia

Foreign trade and FDI inflows became increasingly important in the economies of emerging East Asia. All of the economies except China and Indonesia registered a ratio of exports to GDP exceeding 30 percent, significantly higher than the average ratio of approximately 23 percent for the developing economies in 1997 (World Bank 2000). Hong Kong and Singapore had extremely high ratios, which are attributable to their engagement in entrepôt trade. Although high, the ratios for Korea and Taiwan declined from the mid-1980s to the mid-1990s because of the rapid increase in GDP. ASEAN-4 countries, consisting of Indonesia, Malaysia, Philippines, and Thailand, exhibited an increase in the ratio of exports to GDP, reflecting faster growth of exports compared with GDP. Considering that large countries tend to be less dependent on foreign trade than small countries, it is notable that the export to GDP ratios for China and Indonesia

exceeded 20 percent.

Although increasing steadily for most developing East Asian economies, the ratio of FDI inflows to GDP was significantly smaller than the ratio of exports to GDP and varied widely within the region. Singapore had the highest ratio, around 10 percent, while Korea and Taiwan had the lowest, around 0.5-1.0 percent. China and Malaysia registered a rapid increase in the ratio, each reaching about 5 percent in 1997. The role of FDI in emerging East Asia's economic activities is even more important because the foreign affiliates of multinationals engage actively in production, employment, purchases and sales, including foreign trade, in the FDI recipient economies.

II.4 Factors behind the Rapid Expansion of Trade and FDI

The factors behind the significant expansion in foreign trade and FDI inflows in East Asia fall into two groups, one concerning domestic factors and the other concerning external factors. The most important domestic factor was the liberalization of both trade and FDI policies. In addition, a favorable macroeconomic environment, reflected in relatively stable price levels, together with an abundant supply of well-educated, low-wage labor contributed to the expansion of exports and FDI inflows. As for the external factors, the substantial realignment of exchange rates, particularly the yen-dollar exchange rate in the mid-1980s, was important in promoting exports and FDI inflows. In the 1990s the record-breaking long economic boom in the US provided huge markets for East Asian exports. In addition, the remarkable technical progress achieved in information technology, which reduced the cost of communications, facilitated global operations by the multinational firms. Finally, increased competition among multinational firms, which resulted partly from liberalization and deregulation in various sectors in many countries of the world, promoted their global activities, thereby expanding trade and FDI.

Emerging East Asian economies embarked on liberalization of trade and FDI policies and deregulation in domestic economic activities as part of more comprehensive structural reform policies. Such policy changes were due to the realization that liberalization and deregulation would promote economic growth. The liberalization of trade and FDI policies led to the expansion of exports and inward FDI because it shifted the incentives from import-substituting production to export production and increased the attractiveness of these economies to foreign investors.

Emerging East Asian economies liberalized their import regimes by lowering tariff rates and non-tariff barriers from the early 1980s through the early 1990s (PECC 1995). The notable exception was Hong Kong and Singapore, which had adopted

virtually free trade regimes. China and Indonesia significantly reduced their average tariff rates. The incidence of non-tariff barriers declined in many East Asian economies, except in China. The most remarkable is Indonesia, which reduced non-tariff barriers from 95 percent in 1984–87 to less than 3 percent in 1991–93. Korea also reduced both its tariff rates and the incidence of non-tariff barriers during the period from 1988 to 1993.

Inward FDI policies were liberalized in the mid-1980s, as East Asian economies began to realize that FDI inflows would promote economic growth. Although it is difficult to quantify the restrictiveness of an FDI regime, it is clear that many emerging East Asian economies have liberalized their FDI policies since the mid-1980s (Yamazawa and Urata, 2001). Restrictions on FDI took various forms, including restrictions on market access, most-favored-nation treatment, and national treatment. Many emerging East Asian economies reduced the restrictions on market access by reducing the number of sectors and industries on the negative list and by relaxing the limits on foreign equity ownership. Among the emerging East Asian economies, Indonesia, Korea, Malaysia, the Philippines, and Thailand adopted substantial FDI liberalization measures in an effort to attract foreign investors. Furthermore, recognizing the important contribution that FDI may make toward economic growth, a number of economies introduced incentives such as tax breaks to attract FDI. Indeed, there has been keen competition among emerging East Asian economies to attract FDI by reducing barriers and providing incentives.

Liberalization of trade and FDI also progressed under regional and global frameworks. The members of the ASEAN formed the ASEAN Free Trade Area (AFTA) in 1992, the only formal regional trade arrangement in East Asia. The 1992 agreement provided for the liberalization of tariff and non-tariff measures under the Common Effective Preferential Tariffs. The target year for achieving tariff and non-tariff liberalization was originally set for 2008, but was later moved forward to 2003. FDI liberalization in the ASEAN has been underway after the creation of the ASEAN Investment Area (AIA) in 1998, which provides coordinated investment cooperation and facilitation programs, market access, and national treatment of all industries. The target dates of the creation of the AFTA are 2003 for the original ASEAN members and Myanmar and 2010 for Vietnam, Laos and Cambodia.

APEC has also contributed to the liberalization and facilitation of trade and FDI for emerging East Asian economies. This trans-regional forum includes not only East Asian economies but also countries in North and South America and Oceania. Following the Bogor declaration in 1994 calling for full liberalization of trade and FDI

by 2010 for developed-country members and by 2020 for developing-country members, APEC members agreed to prepare and implement individual action plans specifying near- and medium-term liberalization measures. Peer pressure is expected to play a crucial role in implementation. All APEC members have made significant progress toward freer trade and FDI regimes.

The Uruguay Round of multilateral trade negotiations under the GATT started in 1986 and ended in 1994. Although the negotiations lasted eight years, the Uruguay Round made substantial progress toward liberalizing trade and FDI. The achievements include: a reduction in tariff rates; framework agreements on trade in services, on intellectual property rights and on trade-related investment measures; a timetable for phasing out all quantitative restrictions on trade; first steps toward bringing agriculture more firmly under a multilateral discipline; a stronger dispute settlement mechanism; and the establishment of the World Trade Organization. Though it is difficult to estimate impact of these achievements individually, there is no doubt that the GATT/WTO has promoted trade and FDI liberalization in East Asia.

III. Increasing Intra-regional Dependence in Trade and FDI in East Asia¹

III.1 The Measurement of Intra-regional Dependence

Several studies have examined the changes in intra-regional dependence in foreign trade in East Asia. Computing three sets of measures, Petri (1993) finds that intra-regional dependence in foreign trade in East Asia increased steadily in the post-World War II period, after declining in the pre-World War II period, and that intra-regional bias declined in the post-World War II period. Frankel (1993) also finds a decline in intra-regional bias in foreign trade in the 1980s by estimating the magnitude of the bias in the gravity model framework. This subsection investigates the changing patterns of intra-regional trade and FDI in East Asia from the early 1980s to the late-1990s. Following Petri (1993), the following three measures are computed: absolute measures, relative measures, and double-relative measures.

Absolute measure (*A*): $A = X_{ij} / X_{..}$

Relative measure (*B*): $B = A / (X_{i.} / X_{..}) = X_{ij} / X_{i.}$

Double-relative measure (*C*): $C = A / [(X_{i.} / X_{..}) (X_{.j} / X_{..})] = X_{ij} * X_{..} / X_{i.} * X_{.j}$,

where X_{ij} represents exports (or outward FDI) from region i to region j , and “.”

¹ Urata (2001) conducted similar analyses for the earlier period.

indicates the summation across all i or j . Therefore, X_i represents total exports (or outward FDI flows) of region i , X_j represents total imports (or inward FDI flows) of region j , and $X_{..}$ represents world trade (or world total FDI flows).

The absolute measure compares the scale of a particular bilateral trading (or FDI) relationship to world trade (or world FDI), while the relative measure compares it to trade (or FDI) of one or the other of the two partners participating in the relationship. The double-relative measure, which is commonly called the intensity index, shows the intensity or bias of the bilateral trading (or FDI) relationship by taking into account its importance in world trade (or world FDI). The value of unity for the double-relative measure can be interpreted so that the bilateral relationship is neutral, while the relationship is more (or less) biased when the measure is greater (or less) than unity.

III.2 Foreign Trade

Table 3 shows the estimated values of the three measures of foreign trade and FDI for several regions in the world—East Asia, the North American Free Trade Agreement (NAFTA), the European Union, and MERCOSUR. The results indicate that intra-regional trade in East Asia became more important not only in terms of world trade but also in terms of regional trade. However, intra-regional bias became smaller over time.

The importance of intra-East Asian trade in world trade increased significantly from 5 percent in 1980 to 13 percent in 1995, though it declined slightly to 11 percent in 1999. The share of intra-NAFTA trade in world trade also increased over the same period, but the share was smaller, at 10 percent in 1999. The corresponding share for the European Union was significantly higher, at 23 percent in 1999, although the share had declined sharply from 29 percent in 1990.

A significant part of intra-East Asian trade takes place between Japan and emerging East Asian economies. This can be seen from the fact that the share of intra-regional trade among emerging East Asian economies (6 percent in 1999) amounts to only slightly more than half of the level observed for East Asia as a whole (11 percent), that is, including Japan. The magnitude of intra-regional trade for the Asian NIE-4 and for the ASEAN-10 is still quite small in world trade, amounting to 1.2 percent and 1.4 percent of world trade in 1999, respectively.

Intra-East Asian trade increased its importance for East Asia's total trade (exports+imports) over time, as shown in the increase in the relative measure from 36 percent in 1980 to 50 percent in 1997, followed by a slight decline to 49 percent in 1999. The comparable figures for emerging East Asia were 22 and 39 percent in 1980 and

1999, respectively. The importance of intra-regional trade in total regional trade also increased for the members of NAFTA from 33 to 47 percent during the same period, but it declined for the European Union from 65 percent in 1990 to 61 percent in 1999, after rising between 1980 and 1990. Among the sub-groups in East Asia, intra-group trade among the NIE-4 was quite small, amounting to only 13 percent of total trade, while intra-ASEAN-10 trade was larger, at 23 percent.

An analysis of the relative measures computed for exports and for imports shows that intra-East Asian trade is more important as a source of imports than as a destination for exports. This finding indicates a trading pattern in which East Asian economies procure imports within the region and sell exports outside the region. This appears to reflect the behavior of multinationals, as will be confirmed in a later section. Many multinationals use East Asia as an export platform, in which they assemble export products for regions outside of East Asia by importing parts and components from within the region. In contrast, intra-NAFTA trade is more important for NAFTA's exports than for its imports.

The results of the double-relative measure (or the trade intensity index) reveal an interesting contrast concerning the intra-regional trade bias for East Asia, on the one hand, and the NAFTA and the European Union, on the other hand. Specifically, intra-regional bias declined in East Asia from 2.6 in 1980 to 2.3 in 1999, while the corresponding values for the NAFTA and the European Union increased from 2.1 and 1.5 to 2.3 and 1.7, respectively, over the same period. Among East Asian subgroups, intra-regional trade bias is very high for ASEAN, with the double-relative measure at 4.2 in 1999, although the size of the bias has declined over time.

The estimated measures of intra-regional trade dependence reveal that the importance of intra-regional trade in East Asia increased not only in world trade but also in regional trade over time. However, extra-regional trade also expanded rapidly. Indeed, intra-regional trade bias declined in East Asia, while it increased in the NAFTA and the European Union. One may attribute these differences partly to differences in the institutional arrangements. Both the NAFTA and the European Union have trade arrangements that give preferential treatment to their members, possibly leading to an increasing regional bias. In East Asia, a preferential trading arrangement has been set up only for the ASEAN members that make up a small portion of intra-East Asian trade, and other economies do not have any discriminatory arrangements. The absence of discriminatory trade arrangements may have caused a decline in trade bias. Unilateral trade liberalization without discriminatory treatment among trading partners, even including those of ASEAN, may have contributed to a decline in regional trade bias in

East Asia. Furthermore, a decline in the cost of communications and transportation services, resulting from technological progress and liberalization, contributed to the diversification of trading partners. Rapid industrialization centered on similar industries such as textiles and electric machinery has forced many East Asian economies to look outside the region for markets for their products, diminishing the intra-regional trade bias (Petri 1993).

III.3 Foreign Direct Investment

Similarly to the changing patterns of trade, intra-regional FDI in East Asia increased from 4 percent of world FDI in 1980 to 8 percent in 1994. The corresponding share for the European Union also increased from 13 to 19 percent, while it declined for the NAFTA from 14 to 5 percent. Among the East Asian sub-groups, the stock of intra-regional FDI in the emerging economies registered relatively high growth, increasing from 2 to 6 percent of world FDI during the 1980–94 period.

Intra-regional FDI in East Asia increased from 40 percent in 1980 to 43 percent in 1994. Among the sub-groups, intra-regional FDI became particularly important for emerging East Asia. Coupled with this observation, the relatively small shares of intra-regional FDI for NIEs and ASEAN indicate the importance of FDI from the former to the latter sub-group. Intra-regional FDI is particularly important because 87 percent of outward FDI has been directed to emerging East Asia. The share of inward FDI has increased in East Asia, which means that an increasing share of inward FDI originates inside the region. However, the share of intra-regional FDI in regional FDI is substantially smaller for emerging East Asian economies, reflecting the importance of Japan as a source of FDI.

The results of double-relative measures show an interesting contrast between East Asia and the European Union. Although the magnitude of the bias is higher for East Asia than for the European Union, the magnitude of the bias declined for East Asia, while it increased for the European Union. The extent of the bias remained more or less the same for the NAFTA. These observations are consistent with those made for foreign trade, and differences in the direction of bias for East Asia and for the European Union may reflect differences in institutional arrangements, as argued in the case of foreign trade.

Patterns similar to those of trade are found for intra-regional FDI in East Asia. That is, from 1980 to 1994 the importance of intra-regional FDI in East Asia increased not only in world FDI but also in overall regional FDI in East Asia. However, a regional bias declined during the 1980–94 period. These findings indicate that the increasing

importance of intra-regional trade and FDI is attributable largely to the rapid expansion of overall trade and FDI in the region that is driven by market forces. This contrasts with the case in the European Union or the NAFTA, where intra-regional bias in foreign trade and FDI increased possibly because of discriminatory institutional arrangements under which regional members receive preferential treatment, worsening resource allocation.

A lack of necessary information precludes us from computing the measures for intra-regional dependence in FDI for the period after 1994. However, there appear some evidences that indicate the declining intra-regional dependence in FDI for East Asia since the mid-1990s. One piece of evidence is substantial declines in the shares of East Asia in world FDI inflows and outflows in the latter half of the 1990s (Table 2). Another is the sharp decline in the importance of East Asian economies as foreign investors in East Asia. According to the figures in Table 4, East Asia lost its share as FDI supplier in all the East Asian economies listed in the table except Indonesia. In contrast to the position of East Asia, the EU increased its shares in many East Asian economies. These findings indicate the declining importance of East Asia not only in world FDI but also as a supplier of FDI in East Asia, which in turn tend to show a decline in intra-regional dependence in FDI.

IV. Creation of Intra-regional Production System in East Asia

IV. 1 Increasing Intra-regional Dependence in Production

So far the changing patterns of foreign trade and FDI in East Asia have been examined without considering their relations with the economic structures of the East Asian economies. Our earlier observation that foreign trade of the East Asian economies and in particular intra-regional trade in East Asia expanded rapidly since the 1980s may indicate a substantial impact on economic structures of the East Asian region as well as those of the individual economies. This section investigates intra-regional trade patterns in East Asia by explicitly relating them to procurement sources of the inputs for production by using international input-output tables. From the analysis, the changing characteristics of intra-regional, inter-industry relationships in East Asia will be discerned.

The Institute of Developing Economies in Japan constructed international input-output tables covering East Asian economies and the U.S. for 1985, 1990, and 1995. The international input-output tables are constructed by linking input-output tables of the individual economies by explicitly specifying the import sources and export destinations of the products among the economies. The international

input-output table shows the sources of inputs for production, that is, inputs from domestic market and imported inputs from other economies. Like input-output tables, the international input-output table shows destinations of outputs, that is, outputs sold in domestic market and those exported to other economies. Below we examine the sources of inputs for production by East Asian economies, because our main interest here is to examine the inter-industry, intra-regional production relationship in East Asia.

Table 5 shows the production (input) structures of East Asian economies in 1985 and 1995. Between 1985 and 1995 the importance of imported inputs in production increased for the East Asian economies except Singapore, Korea and Japan, indicating increasing dependence on foreign countries for the supply of intermediate inputs. Wide variations in the importance of imported inputs in production can be observed for East Asian economies. Malaysia, Philippines, Singapore, Thailand, and Taiwan exhibit high dependence as the share of imported inputs in production for these economies exceeded 10 percent. Indonesia, China and Korea have low shares around 6 percent.

To examine intra-regional dependence in production in East Asia, we computed the share of imported inputs, which are originated inside the region, in total inputs (total intermediate goods and value added). The results, which are shown under 'East Asia including Japan excluding itself,' show the increase in intra-regional dependence in production for East Asian economies except Korea and Japan. Singapore and Malaysia register particularly high dependence, while dependence for China and Japan is quite low.

The foregoing analysis did not reveal 'true' intra-regional dependence in production, as it only took account of direct inputs and did not consider indirect inputs, which are required for the production of inputs. To shed light on the true intra-regional dependence, we computed the magnitude of output being induced by a unit increase in final demand in a particular economy in East Asia by using international input-output tables. The results of the computation, which incorporate not only inter-industry relationships inside the economy but also those with other East Asian economies, are presented in Table 6. For example, in 1985 one unit increase in final demand in Indonesia increases output of Indonesia by 1.6026 units.² It also increases output of

² The figures are computed as follows. International input-output tables with 24 sector disaggregation and 10 economies are used in the analysis. To derive the amount of output induced by an increase in final demand, the Leontief inverse matrix is multiplied by a final demand vector consisting of unity for 24 sectors. The resulting output is divided by 24 to obtain the level of output induced by one unit increase in final demand.

Korea and Taiwan by 0.0039 and 0.0030, respectively

The figures in Table 6 show that intra-regional, inter-industry relationships deepened from 1985 to 1995, because for East Asia a higher level of output is obtained in 1995 (16.2102 units) compared with 1985 (16.1393 units) from a unit increase in final demand of all East Asian economies. Although a large part of induced production is realized in the economy registering an increase in final demand, output of other economies also increase. Indeed, the induced level of output in other East Asian economies excluding output induced in an economy having an increase in final demand increased from 0.9762 in 1985 to 1.3591 in 1995, indicating a "net" deepening in intra-regional, inter-industry relationship. However, the magnitude of the contribution to the deepening of intra-regional, inter-industry relationship is not uniform among East Asian economies. Concerning the "net" contribution, all the East Asian economies excluding Indonesia and Japan contributed to deepening of the relationship. An examination of the magnitude of output induced in East Asian economies shows more or less equal dependence on other emerging East Asian economies and Japan for the supply of intermediate inputs. It should be noted that their dependence on Japan increased significantly between 1985 and 1995, probably indicating that large amount of FDI from Japan promoted imports of inputs from Japan. This finding also indicates increasing importance of emerging East Asian economies for Japan's economic growth.

IV.2 Multinational Firms: Promoters of Regional Economic Integration

East Asian economies have experienced rapid expansion of foreign trade and FDI in recent years. We observed increasing intra-regional dependence in foreign trade and production in East Asia. Recognizing the increasingly important role of FDI in economic activities, we investigate the behavior of multinational firms, major foreign investors, to examine their role in regional integration. Specifically, we analyze the procurement and sales patterns of their affiliates in Asia. To examine this issue in a comprehensive way, we need the detailed information on trade by multinationals in East Asia. However, necessary data to carry out such an analysis are not available for foreign firms of all origins in East Asia. Below we use the information on Japanese multinationals to examine this issue. Although limited in its coverage, the data on Japanese multinationals would provide us with useful information on foreign firms' trading patterns in East Asia, because Japanese multinationals account for a large portion of multinationals operating in East Asia.

Table 7 presents the procurement and sales patterns of Japanese manufacturing multinationals in Asia in 1992 and 1998. One observes that for the Asian affiliates of Japanese firms, the share of local procurements and sales in their total declined and the share of foreign trade increased from 1992 to 1998. Specifically, the shares of imports in total procurements and the shares of exports in total sales for their Asian affiliates increased from 51 and 34 percent in 1992 to 56 and 50 percent in 1998, respectively. The corresponding figures for the North American affiliates changed from 49 and 8 percent to 48 and 12 percent, while the figures for European affiliates declined from 71 and 44 percent to 59 and 40 percent (not shown in the table). These data indicate that the Asian affiliates have a greater trade-orientation when compared with those in North America, but they record a smaller trade-orientation than those in Europe.

An examination of the regional composition of foreign trade for the overseas affiliates of Japanese firms reveals an increasing importance of intra-regional trade in Asia. For imports by the Asian affiliates, the share of Asia (including Japan and other Asia) in total procurements increased from 47 percent in 1992 to 53 percent in 1998. The corresponding shares for exports in total sales increased from 27 percent to 42 percent. It is of interest to observe that for procurements by the Asian affiliates dependence on other Asia increased from 1992 to 1997, while that on Japan declined, possibly reflecting a shift from Japan to other Asia as a source of imports. By contrast, for sales by the Asian affiliates, dependence on both Japan and other Asia increased at the expense of other regions' exporters. Among manufacturing subsectors, the affiliates in the electronic machinery subsector exhibit high dependence on trade, especially on intra-regional trade, in their procurements and sales, reflecting the presence of regional production network.

A rapid expansion of foreign trade in Asia by Japanese multinationals was attributable to rapid expansion of intra-firm trade, that is, foreign trade between the Japanese parent and foreign affiliates, or between foreign affiliates. In particular, intra-firm trade accounts for a substantial share of foreign trade by the Asian affiliates in their trade with Japan. For the Asian affiliates in Asia, in 1998 as large as 96 percent of their exports to Japan were destined to their parents in Japan (Table 8). Although the dependence on intra-firm trade is less for their imports, as large as 83 percent of the imports by the Asian affiliates from Japan came from their parents. The importance of intra-firm trade is smaller for the trade between the affiliates in Asia, when compared with the case for the trade between the affiliates and the parents.

Two interesting observations may be made from the findings on procurement and sales patterns of Japanese multinational firms. First, Japanese multinationals have

contributed to the promotion of foreign trade in Asia, in particular intra-regional trade. Second, Japanese multinationals have become more active in pursuing intra-regional, inter-process division of labor, probably contributing to the efficient use of factors of production in Asia.

A large number of multinationals in East Asia have been found to be of efficiency-seeking type, not market-seeking type. As such, these multinationals locate themselves in an economy where they can perform their operation most efficiently or at the least cost. Japanese multinationals in machinery sectors such as electronics, which account for a large part of Japanese multinational activity in East Asia, break up their production process into several sub-processes, and locate each sub-process in an economy where that particular sub-process may be carried out most efficiently. For example, some TV producing Japanese multinationals break up the production process into sub-processes such as parts production and assembly operation, and they locate these sub-processes in economies where the required factor inputs are relatively abundant, for example high-skilled workers for parts production and low-wage labor for assembly operation. The TV manufacturers export parts to an economy where the final products are assembled, and export the assembled TVs to other economies.

US multinationals also have been active in setting up production networks in East Asia. Unlike a more or less closed production system by Japanese multinationals, production networks constructed by US multinationals are said to be more open to firms from other nationalities such as those from Korea, Singapore, and Taiwan. Indeed, the basic strategy of US multinationals is to link up with the most efficient producers regardless of their nationality.³ Like Japanese multinationals, US multinationals have contributed to increase trade-orientation of the host East Asian economies, but they do not have contributed much to the promotion of intra-regional trade, as their ties with the US market are expectedly strong⁴.

Many firms from the Asian NIEs also set up production networks in various parts of the world, particularly in East Asia. One of the industries that have actively pursued such a globalization strategy is textiles. All these production systems and networks clearly have contributed to greater intra-regional trade interdependence in East Asia.⁵

³ See Borrus (1998) for the case of U.S. electronics firms in East Asia.

⁴ Dobson (1997)

⁵ Gereffi (1999) presents an interesting analysis of apparel commodity chain developed

V. Recent Surge of Regional Trade Agreements in East Asia

The analysis in the previous sections found market forces as the major promoter of regional economic integration in East Asia. The ASEAN Free Trade Area had been the only regional trade agreement in East Asia until Japan and Singapore signed an FTA in January 2002. Although not formally enacted, various FTAs have been proposed such as China-ASEAN, China-Hong Kong, Japan-Korea, Japan-ASEAN, and others. Indeed, FTA appears to have become a fad in trade policy circles.

Various factors have been behind rapid expansion of FTAs in East Asia. First, rapid expansion of FTAs in other parts of the world has prompted East Asian economies to form FTAs. Many East Asian economies have become to realize the benefits of trade liberalization for the promotion of economic growth, as it has brought expected outcome of rapid economic growth. Despite the desire of many policy makers for promoting trade liberalization, it has become apparent that trade liberalization under the GATT/WTO has become increasingly difficult. As the number of GATT/WTO members increased, their views on the pace and the extent of trade liberalization have become diverged. Indeed, the fact that it took the GATT members eight years, twice as long a period as initially planned, to conclude the Uruguay Round (UR) negotiations, indicates the increasing difficulty in reaching a consensus on trade liberalization. The increasing difficulty in reaching a consensus was a factor that led to a failure by the WTO members to initiate a new round of trade negotiations in Seattle in 1999. Faced with the difficulty in carrying out trade liberalization on the global scale, many countries in other parts of the world have opted to form FTAs among the like-minded countries to pursue trade liberalization. Feeling left behind others in the formation of RTAs, East Asian economies began to discuss FTAs.

Second, somewhat related to the point just made, economies are interested in using FTAs as a way to promote deregulation and structural reforms in the domestic market. For many economies, external pressures such as FTAs can be very effective in pursuing such policy objectives.

Third, the desire to maintain or increase market access on the part of business has contributed to the formation of FTAs. Having an access to a large market is undoubtedly important for successful business. As a result of increasing FTAs, the companies from a country without FTAs have become discriminated against in many markets. To overcome this problem and to be able to compete against companies from other countries on the same condition, companies desire strongly to form FTAs.

Fourth, many East Asian economies are interested in using 'FTAs' to promote economic and other types of cooperation. Indeed, FTAs and future FTAs include not only trade liberalization a la traditional FTA, but also trade and FDI liberalization and facilitation. Japan-Singapore FTA even includes mutual recognition on technical standards, labor mobility, competition policy, economic cooperation and others. Because of its comprehensive coverage, Japan-Singapore FTA is named as New Age Economic Partnership Agreement (EPA).

FTAs are discriminatory arrangement toward non-members, and therefore give rise to negative effects mainly in the form of trade and FDI diversion. However, even with those negative impacts, FTAs are likely to contribute to economic growth by promoting trade and FDI among members, which would have positive impacts even on non-members. Having noted the favorable impacts of FTAs, it is important for FTAs not to raise tariff and non-tariff barriers to non-members and to liberalize substantially all trade, as stipulated in GATT Article XXIV.

Several challenges have to overcome to form FTAs. First and foremost is the adjustment problem, which is caused by liberalization. Non-competitive sectors, which would suffer from increased competition, are sure to oppose FTAs. In many economies these non-competitive sectors do have political influence. Indeed, in the case of Japan-Singapore FTA, non-competitive Japan's agriculture sector, which is protected by strong support of influential politicians, was successful in removing agricultural products from the list of products to be liberalized. Unless effective means to deal with the strong opposition is devised, many FTAs that are under study are not likely to be realized. Another challenge is to create a sense of regional community/partnership in East Asia. Without mutual trust and sense of togetherness, any arrangement will not last and will be short-lived. East Asian economies have to increase international exchange in various forms such as student exchange to deepen mutual understanding.

Having noted the importance of promoting FTAs in East Asia, East Asian economies have to make every effort in pursuing global trade and FDI liberalization under the WTO. Indeed, they should not forget that nondiscriminatory liberalization under the GATT/WTO and by own initiatives has contributed to their economic success.

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Table 1 International Trade of East Asian Economies in the 1980s and 1990s

(a) Value in millions of US dollars															
Regions/Countries	Exports					Imports					Total trade (exports + imports)				
	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999
WORLD	1,832,508	1,874,505	3,381,690	5,070,827	5,663,310	1,918,724	1,975,924	3,517,259	5,137,927	5,810,326	3,751,232	3,850,429	6,898,949	10,208,754	11,473,636
United States	220,781	213,146	393,106	583,451	690,689	256,959	361,620	517,020	770,972	1,048,435	477,740	574,767	910,126	1,354,423	1,739,124
European Union-15	751,159	708,197	1,488,365	2,018,290	2,208,491	843,944	724,609	1,538,964	1,914,173	2,143,856	1,595,103	1,432,805	3,027,329	3,932,463	4,352,347
East Asia	279,576	370,825	715,547	1,332,658	1,429,911	292,342	323,547	669,517	1,267,960	1,202,865	571,918	694,372	1,385,064	2,600,618	2,632,776
Japan	130,435	177,189	287,678	443,047	419,207	141,284	130,516	235,307	336,027	310,733	271,719	307,705	522,985	779,074	729,940
Emerging East Asia	149,141	193,636	427,869	889,611	1,010,704	151,058	193,031	434,210	931,932	892,132	300,199	386,667	862,079	1,821,544	1,902,836
NIE-4	76,262	113,966	269,222	529,143	553,671	88,148	107,119	271,594	556,160	521,150	164,410	221,085	540,815	1,085,303	1,074,821
Hong Kong SAR	19,720	30,182	82,144	173,556	173,793	22,399	29,701	82,482	192,764	179,650	42,119	59,883	164,626	366,321	353,443
Korea	17,439	30,289	67,812	125,588	143,647	22,063	31,058	74,405	135,352	119,740	39,502	61,347	142,217	260,940	263,387
Singapore	19,377	22,812	52,753	118,187	114,730	24,013	26,237	60,954	124,394	111,071	43,390	49,049	113,707	242,581	225,801
Taiwan	19,726	30,683	66,513	111,813	121,501	19,673	20,123	53,753	103,649	110,689	39,399	50,806	120,266	215,462	232,191
ASEAN-9	52,162	49,692	91,612	204,417	255,046	40,525	39,999	102,289	235,746	197,636	92,686	89,691	193,902	440,163	452,682
Indonesia	21,909	18,596	25,675	45,428	57,193	10,837	10,275	22,005	40,629	28,950	32,747	28,871	47,680	86,056	86,142
Malaysia	12,960	15,408	29,420	73,724	84,550	10,821	12,301	29,170	77,620	65,491	23,782	27,709	58,590	151,344	150,042
Philippines	5,787	4,614	8,194	17,371	35,474	8,295	5,351	12,993	28,282	31,368	14,082	9,965	21,186	45,653	66,842
Thailand	6,501	7,123	23,072	57,201	61,797	9,213	9,259	33,407	73,692	53,207	15,714	16,382	56,479	130,892	115,003
Vietnam	0	693	2,525	5,450	10,474	0	1,842	2,842	8,155	13,213	0	2,535	5,367	13,606	23,687
Other ASEAN-9	5,004	3,258	2,727	5,243	5,559	1,359	970	1,872	7,368	5,407	6,362	4,228	4,599	12,611	10,966
China	18,139	27,329	62,760	148,955	194,931	19,505	42,480	53,809	132,163	165,718	37,644	69,809	116,569	281,118	360,649
Other East Asia	2,577	2,648	4,275	7,096	7,056	2,880	3,433	6,517	7,863	7,628	5,458	6,081	10,792	14,959	14,685
(b) Shares in world trade (%)															
Regions/Countries	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999
WORLD	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
United States	12.0	11.4	11.6	11.5	12.2	13.4	18.3	14.7	15.0	18.0	12.7	14.9	13.2	13.3	15.2
European Union-15	41.0	37.8	44.0	39.8	39.0	44.0	36.7	43.8	37.3	36.9	42.5	37.2	43.9	38.5	37.9
East Asia	15.3	19.8	21.2	26.3	25.2	15.2	16.4	19.0	24.7	20.7	15.2	18.0	20.1	25.5	22.9
Japan	7.1	9.5	8.5	8.7	7.4	7.4	6.6	6.7	6.5	5.3	7.2	8.0	7.6	7.6	6.4
Emerging East Asia	8.1	10.3	12.7	17.5	17.8	7.9	9.8	12.3	18.1	15.4	8.0	10.0	12.5	17.8	16.6
NIE-4	4.2	6.1	8.0	10.4	9.8	4.6	5.4	7.7	10.8	9.0	4.4	5.7	7.8	10.6	9.4
Hong Kong SAR	1.1	1.6	2.4	3.4	3.1	1.2	1.5	2.3	3.8	3.1	1.1	1.6	2.4	3.6	3.1
Korea	1.0	1.6	2.0	2.5	2.5	1.1	1.6	2.1	2.6	2.1	1.1	1.6	2.1	2.6	2.3
Singapore	1.1	1.2	1.6	2.3	2.0	1.3	1.3	1.7	2.4	1.9	1.2	1.3	1.6	2.4	2.0
Taiwan	1.1	1.6	2.0	2.2	2.1	1.0	1.0	1.5	2.0	1.9	1.1	1.3	1.7	2.1	2.0
ASEAN-9	2.8	2.7	2.7	4.0	4.5	2.1	2.0	2.9	4.6	3.4	2.5	2.3	2.8	4.3	3.9
Indonesia	1.2	1.0	0.8	0.9	1.0	0.6	0.5	0.6	0.8	0.5	0.9	0.7	0.7	0.8	0.8
Malaysia	0.7	0.8	0.9	1.5	1.5	0.6	0.6	0.8	1.5	1.1	0.6	0.7	0.8	1.5	1.3
Philippines	0.3	0.2	0.2	0.3	0.6	0.4	0.3	0.4	0.6	0.5	0.4	0.3	0.3	0.4	0.6
Thailand	0.4	0.4	0.7	1.1	1.1	0.5	0.5	0.9	1.4	0.9	0.4	0.4	0.8	1.3	1.0
Vietnam	0.0	0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.2	0.2	0.0	0.1	0.1	0.1	0.2
Other ASEAN-9	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
China	1.0	1.5	1.9	2.9	3.4	1.0	2.1	1.5	2.6	2.9	1.0	1.8	1.7	2.8	3.1
Other East Asia	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1

Source: International Monetary Fund, IFS CD-ROM.

Table 2 Foreign Direct Investment (FDI) Flows of East Asian Economies in the 1980s and 1990s															
(a) Millions of US dollars															
Regions/Countries	Inflows					Outflows					Total FDI (inflows + outflows)				
	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999
WORLD	52,216	55,502	202,635	318,883	917,481	55,390	59,971	245,820	335,501	871,010	107,606	115,473	448,455	654,384	1,788,491
United States	16,930	20,010	48,497	57,776	275,535	19,230	14,060	37,184	98,750	150,900	36,160	34,070	85,681	156,526	426,435
European Union-15	21,264	15,836	96,173	115,316	371,839	27,067	25,689	130,595	160,931	592,633	48,331	41,525	226,768	276,247	964,472
East Asia	2,654	4,868	19,795	59,590	99,633	2,535	7,964	59,815	39,209	56,918	5,188	12,832	79,609	98,799	156,551
Japan	280	638	1,777	39	12,308	2,390	6,492	50,497	22,508	22,267	2,670	7,130	52,274	22,547	34,575
Emerging East Asia	2,374	4,230	18,017	59,551	87,324	145	1,472	9,318	16,701	34,652	2,518	5,702	27,335	76,252	121,976
NIE-4	1,242	1,280	7,693	10,541	42,312	124	829	8,334	12,816	32,465	1,365	2,109	16,027	23,358	74,777
Hong Kong SAR	0	0	0	0	23,068	0	0	0	0	19,904	0	0	0	0	42,973
Korea	6	234	788	1,776	9,333	26	591	1,052	3,552	4,198	32	825	1,840	5,328	13,531
Singapore	1,236	1,047	5,575	7,206	6,984	98	238	2,034	6,281	3,943	1,333	1,284	7,609	13,488	10,927
Taiwan			1,330	1,559	2,926			5,249	2,983	4,420	0	0	6,579	4,542	7,346
ASEAN-9	1,018	1,180	6,566	12,593	5,936	3	1	140	1,888	359	1,021	1,181	6,706	14,481	6,294
Indonesia	0	310	1,093	4,346	-2,745	0	0	0	603	72	0	310	1,093	4,949	-2,673
Malaysia	934	695	2,332	4,178	1,553	0	0	0	0	0	934	695	2,332	4,178	1,553
Philippines	-106	12	530	1,478	573	0	0	0	399	-59	-106	12	530	1,877	514
Thailand	190	163	2,444	2,068	6,213	3	1	140	886	346	193	164	2,584	2,954	6,559
Other ASEAN-9	0	0	167	523	342	0	0	0	0	0	0	0	167	523	342
China	0	1,659	3,487	35,849	38,753	0	629	830	2,000	1,775	0	2,288	4,317	37,849	40,528
Other East Asia	114	111	271	567	324	18	14	13	-3	53	132	125	285	564	377
(b) Shares in world FDI (%)															
Regions/Countries	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999
WORLD	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
United States	32.4	36.1	23.9	18.1	30.0	34.7	23.4	15.1	29.4	17.3	33.6	29.5	19.1	23.9	23.8
European Union-15	40.7	28.5	47.5	36.2	40.5	48.9	42.8	53.1	48.0	68.0	44.9	36.0	50.6	42.2	53.9
East Asia	5.1	8.8	9.8	18.7	10.9	4.6	13.3	24.3	11.7	65	4.8	11.1	17.8	15.1	8.8
Japan	0.5	1.1	0.9	0.0	1.3	4.3	10.8	20.5	6.7	26	2.5	6.2	11.7	3.4	1.9
Emerging East Asia	4.5	7.6	8.9	18.7	9.5	0.3	2.5	3.8	5.0	40	2.3	4.9	6.1	11.7	6.8
NIE-4	2.4	2.3	3.8	3.3	4.6	0.2	1.4	3.4	3.8	37	1.3	1.8	3.6	3.6	4.2
Hong Kong SAR	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	23	0.0	0.0	0.0	0.0	2.4
Korea	0.0	0.4	0.4	0.6	1.0	0.0	1.0	0.4	1.1	0.5	0.0	0.7	0.4	0.8	0.8
Singapore	2.4	1.9	2.8	2.3	0.8	0.2	0.4	0.8	1.9	0.5	1.2	1.1	1.7	2.1	0.6
Taiwan	0.0	0.0	0.7	0.5	0.3	0.0	0.0	2.1	0.9	0.5	0.0	0.0	1.5	0.7	0.4
ASEAN-9	1.9	2.1	3.2	3.9	0.6	0.0	0.0	0.1	0.6	0.0	0.9	1.0	1.5	2.2	0.4
Indonesia	0.0	0.6	0.5	1.4	-0.3	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.2	0.8	-0.1
Malaysia	1.8	1.3	1.2	1.3	0.2	0.0	0.0	0.0	0.0	0.0	0.9	0.6	0.5	0.6	0.1
Philippines	-0.2	0.0	0.3	0.5	0.1	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.1	0.3	0.0
Thailand	0.4	0.3	1.2	0.6	0.7	0.0	0.0	0.1	0.3	0.0	0.2	0.1	0.6	0.5	0.4
Other ASEAN-9	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
China	0.0	3.0	1.7	11.2	4.2	0.0	1.0	0.3	0.6	0.2	0.0	2.0	1.0	5.8	2.3
Other East Asia	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0

Source: International Monetary Fund, IFS CD-ROM.

Table 3 Intra-Regional Dependence for Trade and FDI							
(a) Absolute Measure (%)							
	Trade					FDI	
	1980	1985	1990	1995	1999	1980	1994
East Asia, incl. Japan	5.4	6.7	8.3	12.7	11.3	3.5	8.4
Emerging East Asia-14	1.7	2.5	3.9	6.6	6.4	1.5	5.5
NIE-4	0.4	0.5	0.9	1.5	1.2	0.1	0.1
ASEAN-10	0.7	0.7	0.8	1.5	1.4	0.5	0.8
ASEAN-9, excl. Singapore	0.1	0.1	0.1	0.3	0.4	-	-
NAFTA	5.7	7.9	6.6	7.8	10.3	13.6	5.3
MERCOSUR	0.2	0.1	0.1	0.3	0.3	-	-
European Union-15	24.3	21.7	28.3	23.8	23.1	12.9	19.3
(b) Relative Measure (%)							
	Exports					Ouward FDI	
	1980	1985	1990	1995	1999	1980	1994
East Asia, incl. Japan	35.9	34.5	40.1	49.3	45.0	38.1	35.0
Emerging East Asia-14	23.3	26.4	32.4	39.6	37.0	86.8	86.6
NIE-4	9.7	8.9	12.4	16.1	14.8	8.6	2.8
ASEAN-10	18.7	19.8	19.8	25.4	22.2	73.2	56.5
ASEAN-9, excl. Singapore	3.9	5.1	5.0	7.3	8.1	-	-
NAFTA	33.6	43.9	41.4	46.2	54.6	27.5	18.7
MERCOSUR	11.6	5.5	8.9	20.3	20.5		
European Union-15	60.8	59.2	65.9	62.4	62.8	38.6	47.9
	Imports					Inward FDI	
	1980	1985	1990	1995	1999	1980	1994
East Asia, incl. Japan	35.3	40.5	43.6	51.2	54.1	42.0	54.0
Emerging East Asia-14	21.1	24.2	30.6	34.6	40.5	19.7	38.3
NIE-4	7.1	8.2	10.3	11.8	11.4	4.1	4.6
ASEAN-10	18.2	19.7	16.4	19.4	23.9	10.2	11.3
ASEAN-9, excl. Singapore	5.0	6.9	4.8	7.3	10.7	-	-
NAFTA	32.8	34.4	33.9	38.4	41.1	41.5	21.2
MERCOSUR	8.3	9.5	14.2	18.2	19.2	-	-
European Union-15	54.0	57.5	63.1	61.3	59.6	36.2	55.0

	Trade (Exports+Imports)					FDI (Out + In)	
	1980	1985	1990	1995	1999	1980	1994
East Asia, incl. Japan	35.6	37.3	41.8	50.2	49.2	40.0	42.5
Emerging East Asia-14	22.2	25.3	31.5	37.1	38.7	32.1	53.1
NIE-4	8.3	8.6	11.3	13.9	13.2	5.6	3.5
ASEAN-10	18.4	19.7	18.0	22.2	22.9	17.9	18.8
ASEAN-9, excl. Singapore	4.3	5.9	4.9	7.3	9.2	-	-
NAFTA	33.2	38.3	37.2	42.0	46.8	33.0	19.9
MERCOSUR	9.7	7.0	11.0	19.2	19.8	-	-
European Union-15	57.2	58.3	64.5	61.9	61.2	37.3	51.2

(c) Double-Relative Measure (Trade Intensity Index, %)

	Trade					FDI	
	1980	1985	1990	1995	1999	1980	1994
East Asia, incl. Japan	2.56	2.28	2.27	2.14	2.25	4.59	2.25
Emerging East Asia-14	2.97	2.93	2.84	2.32	2.49	11.36	6.08
NIE-4	2.09	1.75	1.70	1.64	1.75	4.20	0.98
ASEAN-10	5.12	6.06	4.60	3.80	4.15	14.09	7.59
ASEAN-9, excl. Singapore	1.70	2.65	1.87	1.64	2.34	-	-
NAFTA	2.05	1.96	2.15	2.39	2.27	0.84	0.74
MERCOSUR	6.55	4.93	9.70	13.27	14.68	-	-
European Union-15	1.48	1.60	1.51	1.66	1.66	1.08	1.37

Notes: Definitions are described in the text.

Source: Computed from the data from the following sources:

Trade data: IMF, Direction of Trade Statistics, and FDI data: Industry Canada

Table 4 Sources of Inward Foreign Direct Investment in East Asian Economies (%)												
	China (actualized value)			Indonesia (approved)			Korea (approved)			Malaysia (approved)		
	1990	1995	1999	1990	1995	1999	1990	1995	1999	1991	1995	1999
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
US	13.1	8.2	10.5	1.8	6.9	1.3	39.6	33.2	24.1	10.5	19.7	42.0
East Asia	69.8	77.9	64.1	55.3	20.8	30.0	31.9	29.0	17.3	65.9	58.5	18.6
Japan	14.4	8.3	7.4	25.6	9.5	5.9	29.3	21.5	11.3	21.7	22.9	8.2
Korea	0.0	2.8	3.2	8.3	1.7	2.4	0.0	0.0	0.0	10.7	6.6	0.3
Taiwan	0.0	8.4	6.4	7.1	1.4	13.7	0.5	0.5	0.2	21.1	15.8	2.2
Hong Kong	53.9	53.5	40.6	11.4	4.4	0.7	0.4	3.0	3.0	3.5	1.9	0.5
Singapore	1.4	4.9	6.6	3.0	3.7	6.7	1.7	3.4	2.7	6.5	11.0	7.3
China	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.6	0.2	2.3	0.2	0.1
EU	3.4	5.2	10.0	8.1	21.4	6.1	20.8	17.5	35.5	4.7	5.6	10.0
Italy	0.1	0.7	0.5	0.0	0.1	0.0	0.2	0.2	0.0	0.2	0.2	0.6
UK	0.4	2.4	2.6	0.7	15.8	4.7	5.6	4.5	3.1	3.2	2.1	1.6
Netherlands	0.5	0.3	1.3	6.5	0.9	0.4	4.5	8.8	21.4	0.0	0.6	6.3
Germany	1.8	1.0	3.4	0.2	3.4	0.8	7.8	2.3	6.2	1.1	1.6	1.5
France	0.6	0.8	2.2	0.8	1.2	0.2	2.8	1.8	4.9	0.2	1.1	0.1
	Philippines(BOP)			Singapore (committed)			Taiwan(approved)			Thailand (BOP)		
	1990	1995	1999	1990	1995	1999	1990	1995	1999	1990	1995	1999
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
US	26.9	6.8	4.5	47.6	42.8	57.3	25.3	44.6	222.7	9.5	13.0	8.0
East Asia	46.6	70.1	26.4	31.9	23.8	18.9	50.0	27.3	25.3	75.5	54.0	46.4
Japan	27.7	30.0	16.0	31.9	23.8	18.9	36.4	19.6	12.2	43.2	27.8	12.2
Korea	3.9	1.0	0.7	0.0	0.0	0.0	0.1	0.1	0.1	0.8	0.6	0.2
Taiwan	3.9	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	11.1	4.8	3.9
Hong Kong	7.9	28.9	1.1	0.0	0.0	0.0	10.3	5.0	3.8	10.9	13.9	7.2
Singapore	3.2	9.3	1.9	0.0	0.0	0.0	3.2	2.6	9.2	9.5	6.8	23.0
China	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	-0.1
EU	7.7	12.9	22.7	17.5	30.9	17.4	8.4	10.4	9.4	5.7	12.3	41.6
Italy	0.0	0.0	0.0	0.0	0.3	1.4	0.0	0.0	0.0	0.1	-0.3	0.0
UK	4.4	6.5	0.5	4.1	15.9	1.5	3.9	6.7	3.4	1.7	2.8	5.1
Netherlands	1.7	3.7	20.3	3.3	8.1	3.0	2.2	2.6	4.6	1.0	4.3	18.1
Germany	1.1	2.0	1.3	7.5	3.8	10.1	1.6	0.8	0.7	1.8	1.9	8.2
France	0.5	0.8	0.6	2.7	2.9	1.5	0.8	0.4	0.8	1.1	3.6	10.2

Source: Country sources.

Table 5 Sources of Inputs in Production for East Asian Economies, 1985 and 1995										
		Indonesia	Malaysia	Philippines	Thailand	Singapore	Taiwan	Korea	China	Japan
Domestic inputs	1985	0.3517	0.3367	0.3843	0.4073	0.2976	0.4614	0.4435	0.5008	0.4737
	1995	0.3920	0.3371	0.3385	0.3719	0.3433	0.3869	0.4782	0.5547	0.4395
Imported inputs	1985	0.0624	0.1718	0.0797	0.0996	0.3353	0.1371	0.1290	0.0417	0.0481
	1995	0.0692	0.2396	0.1452	0.1605	0.2868	0.1621	0.0612	0.0614	0.0306
From NIES3	1985	0.0062	0.0298	0.0045	0.0106	0.0117	0.0022	0.0024	0.0010	0.0022
	1995	0.0079	0.0397	0.0198	0.0189	0.0260	0.0090	0.0031	0.0071	0.0022
From ASEAN4	1985	0.0007	0.0073	0.0067	0.0112	0.0635	0.0062	0.0095	0.0011	0.0053
	1995	0.0018	0.0096	0.0084	0.0097	0.0553	0.0094	0.0060	0.0026	0.0027
China	1985	0.0012	0.0028	0.0040	0.0021	0.0350	0.0000	0.0000	0.0000	0.0019
	1995	0.0018	0.0052	0.0036	0.0042	0.0072	0.0044	0.0053	0.0000	0.0015
From Emerging East Asia	1985	0.0080	0.0399	0.0151	0.0239	0.1102	0.0083	0.0119	0.0021	0.0094
	1995	0.0115	0.0545	0.0317	0.0327	0.0884	0.0228	0.0144	0.0097	0.0064
From Japan	1985	0.0121	0.0287	0.0051	0.0150	0.0338	0.0242	0.0241	0.0095	0.0000
	1995	0.0100	0.0560	0.0191	0.0339	0.0663	0.0342	0.0196	0.0095	0.0000
From East Asia	1985	0.0201	0.0686	0.0202	0.0389	0.1440	0.0325	0.0360	0.0115	0.0094
	1995	0.0216	0.1105	0.0508	0.0666	0.1547	0.0569	0.0340	0.0193	0.0064
From Rest of the World	1985	0.0423	0.1033	0.0595	0.0607	0.1913	0.1045	0.0930	0.0302	0.0387
	1995	0.0476	0.1291	0.0944	0.0939	0.1320	0.1051	0.0271	0.0421	0.0242
Total inputs	1985	0.4141	0.5085	0.4640	0.5069	0.6329	0.5985	0.5724	0.5425	0.5218
	1995	0.4612	0.5767	0.4837	0.5324	0.6301	0.5490	0.5393	0.6160	0.4700
Value added	1985	0.5859	0.4915	0.5360	0.4931	0.3671	0.4015	0.4276	0.4575	0.4782
	1995	0.5388	0.4233	0.5163	0.4676	0.3699	0.4510	0.4607	0.3840	0.5300
Output	1985	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	1995	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Source: Institute of Developing Economies, International Input-Output Tables, 1985 and 1995 versions.										

Table 6 Inter-economy, Inter-industry Linkages in East Asia										
An increase in final demand in										
	Indonesia	Malaysia	Philippines	Thailand	Singapore	Taiwan	Korea	China	Japan	Total
Increase in production										
Domestic production										
1985	1.6026	1.4722	1.6189	1.7045	1.5308	1.7638	1.6971	1.8965	1.8768	15.1631
1995	1.5680	1.4469	1.4850	1.5685	1.5083	1.6420	1.6553	2.1608	1.8161	14.8511
1985-95	-0.0346	-0.0253	-0.1338	-0.1360	-0.0225	-0.1218	-0.0417	0.2644	-0.0607	-0.3121
NIES3										
1985	0.0172	0.0914	0.0141	0.0278	0.0275	0.0050	0.0060	0.0029	0.0067	0.1987
1995	0.0171	0.0728	0.0557	0.0381	0.0567	0.0222	0.0063	0.0227	0.0066	0.2981
1985-95	-0.0001	-0.0187	0.0417	0.0102	0.0292	0.0172	0.0003	0.0197	-0.0001	0.0995
ASEAN4										
1985	0.0029	0.0186	0.0157	0.0159	0.1106	0.0119	0.0152	0.0031	0.0224	0.2163
1995	0.0040	0.1088	0.0184	0.0162	0.0979	0.0221	0.0222	0.0078	0.0099	0.3072
1985-95	0.0011	0.0901	0.0027	0.0003	-0.0128	0.0102	0.0071	0.0048	-0.0125	0.0909
China										
1985	0.0041	0.0160	0.0130	0.0091	0.0714	0.0008	0.0007	0.0000	0.0061	0.1211
1995	0.0053	0.0135	0.0135	0.0112	0.0281	0.0165	0.0153	0.0000	0.0056	0.1090
1985-95	0.0012	-0.0026	0.0006	0.0021	-0.0433	0.0157	0.0146	0.0000	-0.0005	-0.0121
Emerging East Asia excluding own domestic production										
1985	0.0242	0.1261	0.0428	0.0528	0.2096	0.0177	0.0218	0.0060	0.0352	0.5361
1995	0.0264	0.1950	0.0877	0.0655	0.1827	0.0608	0.0438	0.0305	0.0221	0.7144
1985-95	0.0022	0.0689	0.0449	0.0127	-0.0269	0.0431	0.0219	0.0245	-0.0131	0.1783
Emerging East Asia including own domestic production										
1985	1.6268	1.5983	1.6616	1.7573	1.7404	1.7815	1.7189	1.9025	1.9120	15.6992
1995	1.5944	1.6418	1.5727	1.6340	1.6910	1.7028	1.6991	2.1913	1.8382	15.5654
1985-95	-0.0324	0.0436	-0.0889	-0.1233	-0.0494	-0.0787	-0.0198	0.2889	-0.0738	-0.1338
Japan										
1985	0.0378	0.0839	0.0206	0.0488	0.0897	0.0627	0.0639	0.0327	0.0000	0.4401
1995	0.0263	0.1221	0.0657	0.0769	0.1777	0.0922	0.0479	0.0359	0.0000	0.6448
1985-95	-0.0115	0.0382	0.0451	0.0281	0.0880	0.0296	-0.0160	0.0032	0.0000	0.2047
East Asia excluding own domestic production										
1985	0.0619	0.2100	0.0634	0.1017	0.2993	0.0803	0.0857	0.0387	0.0352	0.9762
1995	0.0527	0.3170	0.1534	0.1424	0.3604	0.1530	0.0916	0.0664	0.0221	1.3591
1985-95	-0.0092	0.1071	0.0900	0.0407	0.0611	0.0727	0.0060	0.0277	-0.0131	0.3830
East Asia including own domestic production										
1985	1.6646	1.6822	1.6822	1.8062	1.8301	1.8441	1.7828	1.9352	1.9120	16.1393
1995	1.6207	1.7639	1.6384	1.7109	1.8688	1.7951	1.7470	2.2272	1.8382	16.2102
1985-95	-0.0439	0.0817	-0.0438	-0.0953	0.0386	-0.0491	-0.0358	0.2920	-0.0738	0.0709

Source: Institute of Developing Economies, International Input-Output Tables, 1985 and 1995 versions.

Table 7 Procurements and Sales of Foreign Affiliates of Japanese Firms: 1992 and 1998										
(Percentage of Total Procurements or Sales)										
1992										
Procurements	WORLD					ASIA				
	Local	Imports from				Local	Imports from			
	Procure- ments	Japan	North America	Asia	Europe	Procure- ments	Japan	North America	Asia	Europe
Manufacturing Total	46.5	40.9	1.3	5.2	5.0	48.5	37.9	1.8	8.9	0.5
Food	84.8	6.1	0.1	7.0	0.2	72.0	4.5	0.3	22.9	0.1
Textiles	44.4	20.8	4.0	9.8	6.1	40.7	22.4	4.7	12.1	1.4
Wood and Pulp	89.1	7.8	1.8	0.1	1.2	83.7	13.2	0.9	0.3	1.9
Chemical Products	64.9	26.2	2.5	1.5	3.2	71.4	16.9	3.7	3.5	1.3
Iron and Steel	75.5	16.4	0.0	7.6	0.0	29.0	47.3	0.0	22.3	0.0
Nonmetallic Products	67.0	9.9	0.4	5.0	1.2	64.8	9.2	0.4	6.2	0.4
General Machinery	43.4	47.6	2.1	1.7	5.1	49.0	47.8	1.7	1.1	0.4
Electric Machinery	26.6	53.8	1.1	9.2	9.3	36.6	46.7	1.2	15.4	0.1
Transport Machinery	55.1	39.3	1.3	2.5	1.1	52.9	43.8	1.8	1.1	0.4
Precision Instruments	22.7	58.3	0.9	0.8	17.4	34.2	60.2	1.9	3.7	0.0
Coal and Petroleum Products	86.8	10.3	0.9	2.0	0.0	92.6	3.8	1.1	2.5	0.0
Other Manufacturing	61.8	24.2	1.7	6.2	5.5	58.6	27.5	4.0	6.2	2.1

1998										
Procurements	WORLD					ASIA				
	Local	Imports from				Local	Imports from			
	Procurements	Japan	North America	Asia	Europe	Procurements	Japan	North America	Asia	Europe
Manufacturing Total	46.9	36.6	3.2	8.1	4.6	43.9	34.8	1.6	18.2	0.6
Food	81.7	4.1	1.8	10.0	0.3	78.8	6.6	0.4	8.0	0.5
Textiles	56.2	23.2	3.1	9.5	2.4	52.9	26.1	2.9	11.2	0.6
Wood and Pulp	94.5	2.2	0.3	1.3	1.7	76.8	12.4	1.0	7.7	2.1
Chemical Products	64.0	20.7	4.0	5.2	4.7	54.4	18.6	7.1	14.8	2.2
Iron and Steel	63.2	29.9	1.9	3.7	0.2	19.2	70.0	0.0	10.4	0.2
Nonmetallic Products	71.7	13.2	1.5	6.2	6.1	44.1	31.7	0.3	19.0	1.1
General Machinery	38.6	44.1	2.6	2.8	11.3	57.7	32.2	0.8	8.8	0.4
Electric Machinery	36.8	44.1	1.0	15.4	2.4	35.7	37.0	0.4	26.4	0.2
Transport Machinery	50.2	35.8	6.1	2.0	5.6	53.7	37.0	2.5	6.0	0.7
Precision Instruments	39.0	45.2	2.1	12.3	1.2	40.2	41.2	2.6	14.5	1.5
Coal and Petroleum Products	21.0	15.2	3.2	27.3	33.2	21.7	18.0	10.3	45.5	3.9
Other Manufacturing	49.6	32.1	2.2	8.2	7.4	52.8	29.7	1.8	14.2	0.9

Sales	WORLD					ASIA				
	Local	Exports to				Local	Exports to			
	Sales	Japan	North America	Asia	Europe	Sales	Japan	North America	Asia	Europe
Manufacturing Total	76.7	6.3	2.7	3.6	9.9	66.1	15.8	3.7	11.2	2.0
Food	63.7	20.8	2.4	2.8	3.5	46.0	26.5	3.1	4.9	2.0
Textiles	58.5	11.3	6.6	10.4	9.9	56.1	14.2	7.2	12.3	6.7
Wood and Pulp	47.7	32.5	11.1	2.4	4.1	50.2	47.2	2.4	0.3	0.0
Chemical Products	64.5	4.9	3.0	10.1	15.4	64.7	4.9	0.4	28.6	0.2
Iron and Steel	95.8	0.8	2.1	0.8	0.1	85.5	2.1	3.0	8.6	0.9
Nonmetallic Products	67.7	18.1	0.4	12.2	1.4	63.3	21.4	0.1	14.9	0.0
General Machinery	72.3	4.2	5.1	2.1	15.3	53.0	23.6	2.1	11.3	9.8
Electric Machinery	60.6	9.3	3.3	6.1	19.9	45.7	27.2	5.3	19.0	2.2
Transport Machinery	94.1	1.4	1.8	0.4	1.9	92.6	1.7	3.9	1.0	0.5
Precision Instruments	71.4	21.3	2.7	0.7	3.7	36.9	51.8	5.2	1.9	3.8
Coal and Petroleum Products	58.1	0.8	38.3	2.0	0.8	55.9	0.0	43.9	0.2	0.0
Other Manufacturing	80.7	4.4	1.7	1.8	1.1	78.6	9.4	2.6	5.6	2.8

Note: A hyphen "-" means that the data are not disclosed.

Source: Ministry of International Trade and Industry, Kaigai Jigyo Katsudo Kihon Chosa (Comprehensive Survey of Overseas Activities of Japanese Firms), Nos. 5 and 7, 1994 and 2001.

Sales	WORLD					ASIA				
	Local Sales	Exports to				Local Sales	Exports to			
		Japan	North America	Asia	Europe		Japan	North America	Asia	Europe
Manufacturing Total	70.0	9.6	4.7	5.7	8.8	49.8	25.1	4.5	16.6	2.6
Food	76.7	11.6	1.4	2.5	7.0	69.1	16.1	3.3	6.4	3.5
Textiles	57.6	16.6	8.4	8.7	7.2	47.7	22.2	10.9	12.0	5.5
Wood and Pulp	37.7	34.4	12.1	7.9	6.4	58.9	26.7	2.1	10.9	0.0
Chemical Products	76.1	4.5	2.2	6.3	9.2	72.4	7.6	0.6	16.6	1.7
Iron and Steel	91.7	1.3	2.2	2.2	0.7	85.3	3.0	2.7	6.6	0.1
Nonmetallic Products	63.0	14.6	2.8	9.5	9.9	55.9	15.6	0.9	26.3	1.0
General Machinery	65.4	10.8	4.6	4.4	12.3	32.4	40.6	5.5	14.8	4.6
Electric Machinery	57.9	15.4	4.0	11.5	10.0	32.3	33.0	5.3	24.8	2.9
Transport Machinery	81.2	2.6	6.6	0.5	8.6	81.1	11.0	3.5	2.2	1.5
Precision Instruments	46.5	27.6	5.9	13.1	5.2	27.2	46.0	1.5	23.0	2.0
Coal and Petroleum Products	18.9	63.3	0.1	1.6	15.0	21.2	65.7	0.0	2.9	10.2
Other Manufacturing	81.3	7.2	3.0	2.3	5.0	59.8	24.9	4.1	8.9	1.8

Table 8 Intra-firm Transactions in Procurements and Sales of Foreign Affiliates of Japanese Firms: 1992 and 1998										
(Percentage Share in Each Procurement or Sale)										
	Procurements									
	WORLD					ASIA				
	Local	Imports from				Local	Imports from			
	Procure-ments	Japan	North America	Asia	Europe	Procure-ments	Japan	North America	Asia	Europe
1992										
Manufacturing Total	9.0	84.3	52.6	58.9	68.6	4.2	78.0	47.7	50.2	35.8
Food	5.4	93.1	33.8	54.3	0.9	0.2	75.8	14.3	48.8	0.0
Textiles	15.1	37.1	3.2	31.5	2.7	19.5	34.2	3.3	31.5	14.3
Wood and Pulp	6.3	30.1	0.0	0.0	0.0	0.1	79.4	0.0	0.0	0.0
Chemical Products	13.5	81.7	31.8	4.6	50.8	18.0	57.5	7.7	4.3	17.1
Iron and Steel	0.7	2.0	0.0	0.0	0.0	5.2	1.1	0.0	0.0	0.0
Nonmetallic Products	8.4	67.6	7.3	1.0	78.3	0.0	26.0	0.0	0.0	0.0
General Machinery	28.7	90.8	32.5	78.7	60.1	4.5	93.9	80.3	84.8	23.9
Electric Machinery	16.6	76.0	69.0	62.6	77.3	2.0	84.6	86.6	59.8	98.1
Transport Machinery	3.3	98.6	72.2	90.3	19.0	0.6	81.7	76.2	34.6	86.2
Precision Instruments	9.9	74.9	93.4	15.2	98.4	17.5	85.6	0.0	100.0	0.0
Coal and Petroleum Products	0.0	100.0	100.0	10.0	0.0	0.0	100.0	100.0	10.0	0.0
Other Manufacturing	4.3	72.2	5.9	22.5	46.4	7.3	64.1	0.7	61.8	11.8

	Sales									
	WORLD					ASIA				
	Local	Exports to				Local	Exports to			
	Sales	Japan	North	Asia	Europe	Sales	Japan	North	Asia	Europe
			America					America		
1992										
Manufacturing Total	17.4	78.3	47.5	43.9	37.8	6.3	84.2	62.4	44.4	47.6
Food	5.2	84.6	27.2	17.2	18.6	7.6	85.4	51.9	26.3	50.1
Textiles	3.1	40.1	1.1	20.9	21.2	4.3	36.1	1.1	23.0	0.9
Wood and Pulp	2.3	80.9	0.0	0.0	0.0	0.0	57.9	0.0	0.0	0.0
Chemical Products	9.2	50.4	52.3	9.5	30.8	2.4	49.0	11.5	3.2	17.6
Iron and Steel	0.0	16.2	3.2	0.0	0.0	0.0	29.0	23.3	0.0	0.0
Nonmetallic Products	7.8	82.6	73.5	53.0	18.9	0.8	82.6	0.0	55.1	0.0
General Machinery	18.3	91.2	61.6	52.8	75.2	3.0	96.7	54.3	55.6	93.9
Electric Machinery	17.2	86.2	49.5	52.7	34.8	8.0	90.0	82.6	53.7	58.0
Transport Machinery	24.5	49.0	67.8	75.0	42.9	7.2	73.9	71.2	57.9	28.3
Precision Instruments	7.5	95.1	39.2	74.1	42.2	32.4	96.5	51.1	77.9	50.8
Coal and Petroleum Products	0.0	100.0	0.0	90.1	100.0	0.0	0.0	0.0	0.0	0.0
Other Manufacturing	5.5	62.0	28.3	51.4	28.6	6.3	67.0	25.3	49.8	18.4

	Procurements									
	WORLD					ASIA				
	Local	Imports from				Local	Imports from			
	Procure- ments	Japan	North America	Asia	Europe	Procure- ments	Japan	North America	Asia	Europe
1998										
Manufacturing Total	22.2	92.3	39.8	59.9	40.7	11.3	83.2	72.5	58.5	45.3
Food	13.6	93.3	56.1	44.0	9.1	3.9	94.4	48.8	71.7	15.1
Textiles	13.1	87.0	49.6	52.7	48.9	22.1	85.1	40.5	54.8	14.2
Wood and Pulp	37.4	60.5	20.6	0.0	0.0	3.5	53.8	20.6	0.0	0.0
Chemical Products	16.9	86.5	71.7	77.9	47.7	17.6	76.8	85.4	79.5	82.6
Iron and Steel	13.6	85.6	0.0	100.0	0.0	42.6	85.3	0.0	39.9	0.0
Nonmetallic Products	29.3	83.2	10.4	39.5	16.0	20.3	78.9	58.1	37.9	1.4
General Machinery	8.9	94.4	41.7	79.7	76.6	3.9	93.5	21.2	89.7	0.0
Electric Machinery	19.2	91.2	39.1	59.6	51.4	8.6	80.8	32.8	58.8	10.8
Transport Machinery	29.8	95.1	35.3	82.0	16.3	13.4	86.7	100.0	66.2	62.5
Precision Instruments	28.9	95.7	13.3	34.3	94.4	39.1	95.5	0.0	28.3	99.5
Coal and Petroleum Products	59.5	2.0	0.0	9.4	0.0	74.6	1.7	0.0	9.4	0.0
Other Manufacturing	13.7	90.6	38.3	35.3	77.6	6.1	81.2	48.0	57.3	34.2

	WORLD					ASIA				
	Local	Exports to				Local	Exports to			
	Sales	Japan	North America	Asia	Europe	Sales	Japan	North America	Asia	Europe
1998										
Manufacturing Total	20.4	94.6	50.6	56.7	40.5	16.1	95.7	66.4	58.9	66.1
Food	10.7	78.6	18.6	55.8	9.5	26.1	85.7	15.9	73.3	18.0
Textiles	5.8	84.2	62.0	52.6	48.0	11.2	83.4	60.0	52.2	66.5
Wood and Pulp	4.2	87.3	35.3	20.5	0.0	16.3	76.6	30.4	42.4	0.0
Chemical Products	16.5	92.1	37.5	27.2	23.1	12.0	91.3	42.5	25.4	38.3
Iron and Steel	1.5	74.3	42.2	29.1	90.9	3.1	95.4	74.0	34.6	33.5
Nonmetallic Products	35.4	90.4	13.9	32.3	5.7	14.8	99.3	98.9	32.8	94.4
General Machinery	11.3	98.1	90.8	81.5	69.8	10.8	98.5	95.0	94.4	99.2
Electric Machinery	16.0	96.5	49.1	64.1	53.1	20.5	96.3	55.3	66.4	66.1
Transport Machinery	33.8	94.0	45.6	59.9	21.4	11.5	96.9	98.6	56.7	94.7
Precision Instruments	24.6	98.4	50.0	21.8	54.0	58.3	98.4	24.2	19.1	49.6
Coal and Petroleum Products	6.2	90.8	0.0	0.0	0.0	6.9	91.3	0.0	0.0	0.0
Other Manufacturing	10.7	92.1	41.1	31.3	46.1	8.1	94.3	62.7	32.7	29.4

Note: A hyphen "-" means that the data are not disclosed.

Source: Ministry of International Trade and Industry, Kaigai Jigyo Katsudo Kihon Chosa (Comprehensive Survey of Overseas Activities of Japanese Firms), Nos. 5 and 7, 1994 and 2001.