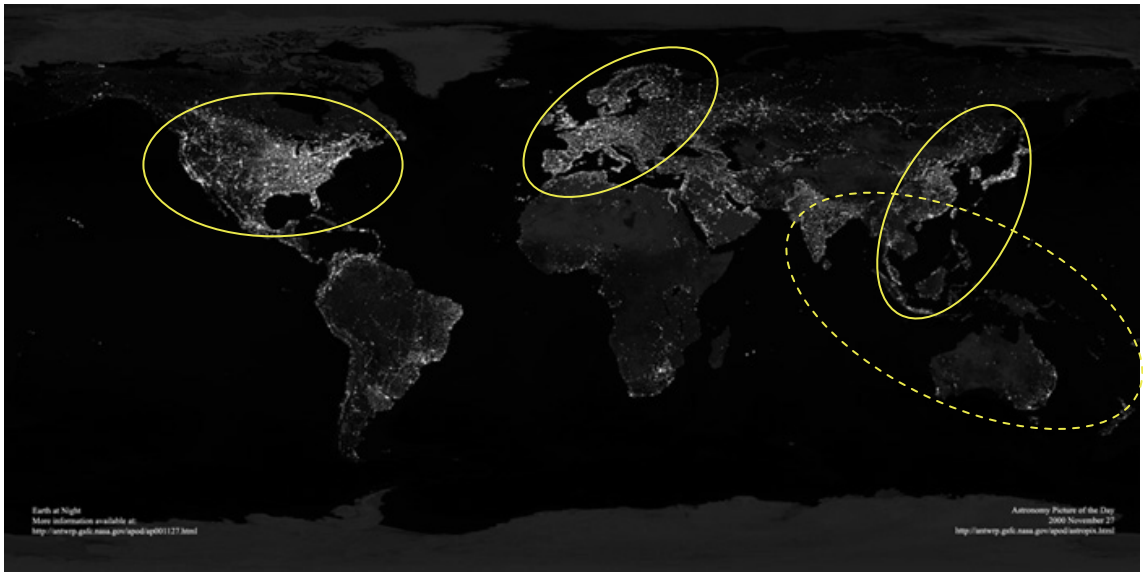
2. NATURE AND CHARACTERISTICS OF THE EAST ASIAN ECONOMY

2.1. Economic growth and income disparities

ASEAN and East Asia have achieved remarkable economic growth and have led dynamism among developing economies in the world. Since the late 1980s, in particular, East Asia has successfully attracted foreign direct investment (FDI) and has effectively taken advantage of globalizing forces for its development.

Figure 2-1 is a night photo of the earth taken from NASA's satellites. It utilizes a bird's-eye view of the world to show where economic activity is concentrated in 2000. We can identify the distribution of economic activities on the earth by the density of the lights in the night.

Figure 2-1: Three sparkling regions (November 27, 2000)

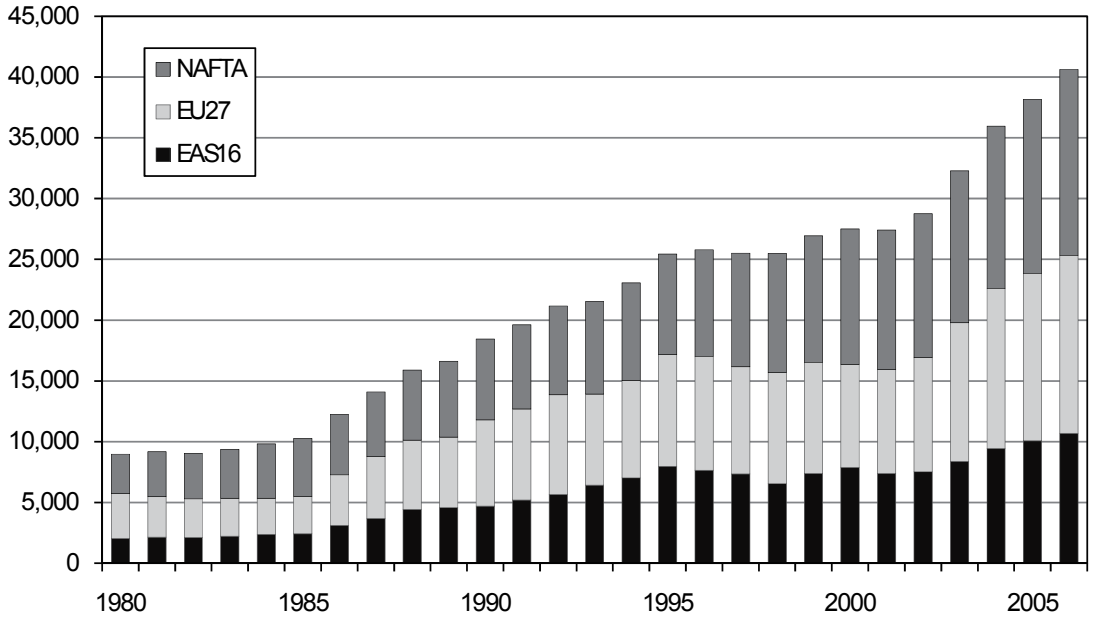


Credit: C. Mayhew & R. Simmon (NASA/GSFC), NOAA/ NGDC, DMSP Digital Archive.
Source: Downloaded from NASA website (http://apod.nasa.gov/apod/ap001127.html).

We can readily recognize three sparkling regions (circled in the photo), each extending across national borders. The brightest region is the core area of the North-American Free Trade Agreement (NAFTA), which consists of the US, together

with the southern part of Canada and the northern part of Mexico. The next brightest region is Europe, containing the European Union (EU). The third is East Asia, extending along the East China Sea and South China Sea from Japan to Indonesia. India also has a large sparkling area.

Figure 2-2: GDP of East Asia, EU27 and NAFTA (billion US$, current prices)



Source: IMF, *World Economic Outlook Database*, October 2007.

In fact, as Figure 2-2 shows, the GDP of enlarged East Asia, consisting of ASEAN 10, plus three (China, Japan, and Korea), and plus three (Australia, India, and New Zealand), is rapidly approaching to the GDP of the other major regions of NAFTA and EU-27. To be precise, in 2006, the GDP of enlarged East Asia was US$ 10,699 billion, which was slightly lower than those of EU-27 (US$ 14,610 billion) and NAFTA (US$ 15,310 billion).[3] Figure 2-2 also indicates that over the 26-year period from 1980 to 2006, the GDP of enlarged East Asia grew the fastest (5.3 times), compared to those of EU (4.0 times) and NAFTA (4.7 times).

[3] In this report, East Asia includes Brunei, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Australia, China, Japan, Korea, and New Zealand. EU27 consists of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

In terms of the share in the world total GDP in 2006, the enlarged East Asia accounted for 22.2% of global GDP, while the EU-27 generated 30.3%, and NAFTA 31.7%. In sum, 84.2% of global GDP was concentrated in the three regions. In 1980, the corresponding shares were 17.2% for the enlarged East Asia, 31.4% for EU-27, 27.7% for NAFTA, with the three regions combining for 76.2%. Hence, the concentration of the world GDP in the three regions has recently been intensifying, with East Asia growing the fastest.

The geographical size of NAFTA is about the same as that of East Asia, as we can see in Figure 2-1. In fact, the flight distance between New York and Los Angeles is equivalent to the distance between Tokyo and Bangkok. This means that, given today's technologies, the geographical area of NAFTA or East Asia represents a natural spatial unit of economic activity that extends far beyond traditional nation-states, though much smaller than the whole world. Also notice that East Asia contains the East China Sea and South China Sea in the middle, a geographical circumstance that renders cargo transport costs cheaper in East Asia than in NAFTA. Thus, East Asia is not as big as commonly thought. In contrast, the geographical size of the EU is considerably smaller than that of NAFTA and of East Asia. This suggests the possibility of further expansion of the EU in the future.

Table 2-1: FDI inward stocks in East Asia

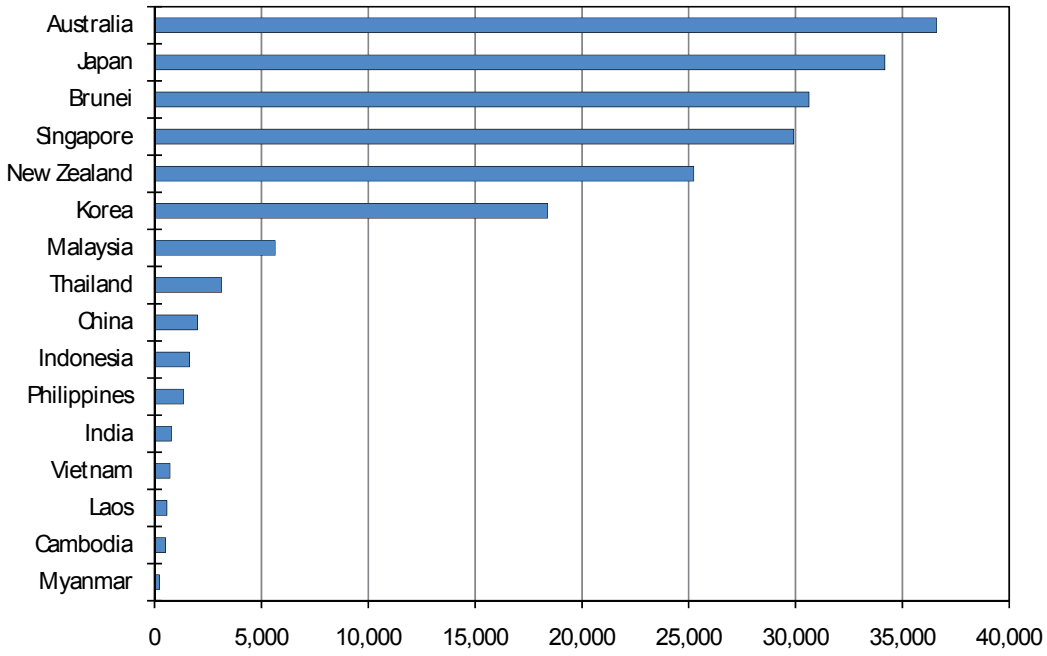
	FDI Inword Stocks (million US$)				As a Percentage of GDP (%)			
	1980	1990	2000	2006	1980	1990	2000	2006
Australia	24,776	73,644	111,138	246,173	14.9	23.7	27.8	32.6
Brunei	19	33	3,868	9,861	0.4	0.9	89.6	86.2
Cambodia	38	38	1,580	2,954	5.1	2.2	43.1	41.6
China	1,074	20,691	193,348	292,559	0.4	5.4	17.9	11.1
India	452	1,657	17,517	50,680	0.2	0.5	3.8	5.7
Indonesia	4,680	8,855	24,780	19,056	5.9	7.0	15.0	5.2
Japan	3,270	9,850	50,322	107,633	0.3	0.3	1.1	2.5
Korea	1,327	5,186	38,086	70,974	2.1	2.0	7.4	8.0
Lao PDR	2	13	556	856	0.7	1.4	32.1	24.9
Malaysia	5,169	10,318	52,747	53,575	21.1	23.4	58.4	36.0
Myanmar	1	281	3,865	5,005	0.0	5.4	53.1	38.5
New Zealand	2,363	7,938	24,894	63,116	10.3	18.2	47.3	60.8
Philippines	1,281	3,268	12,810	17,120	3.9	7.4	17.1	14.6
Singapore	5,351	30,468	112,633	210,089	45.7	82.6	121.5	159.0
Thailand	981	8,242	29,915	68,058	3.0	9.7	24.4	33.0
Vietnam	1,416	1,650	20,596	33,451	59.1	25.5	66.1	54.8
World	551,221	1,779,198	5,810,189	11,998,838	5.2	8.4	18.3	24.8

Source: UNCTAD, *World Investment Report 2007*.

ASEAN and the surrounding region have aggressively targeted inbound FDI. Since the mid-1980s, a large amount of FDI has flowed into East Asia, which has brought about massive positive impacts on economic growth of the host countries. Table 2-1 presents the FDI inward stock data in the enlarged East Asian countries, as compiled by the United Nations Conference on Trade and Development (UNCTAD). Although there are many problems with the reliability of FDI-related data and their international comparability, we can at least confirm that most of the East Asian countries have been successful in attracting FDI and have tried to effectively utilize globalizing forces for their development. In particular, FDI has played a leading role in the formation of international production/distribution networks in ASEAN and East Asia.

FDI in East Asia has wisely been utilized in the overall framework of countries' development strategies and has resulted in expanded exports, income, and eventually consumption. The virtuous FDI-led cycle has built in host countries, which has provided opportunities for indigenous entrepreneurs/firms to develop and has raised the welfare level of people in East Asia.

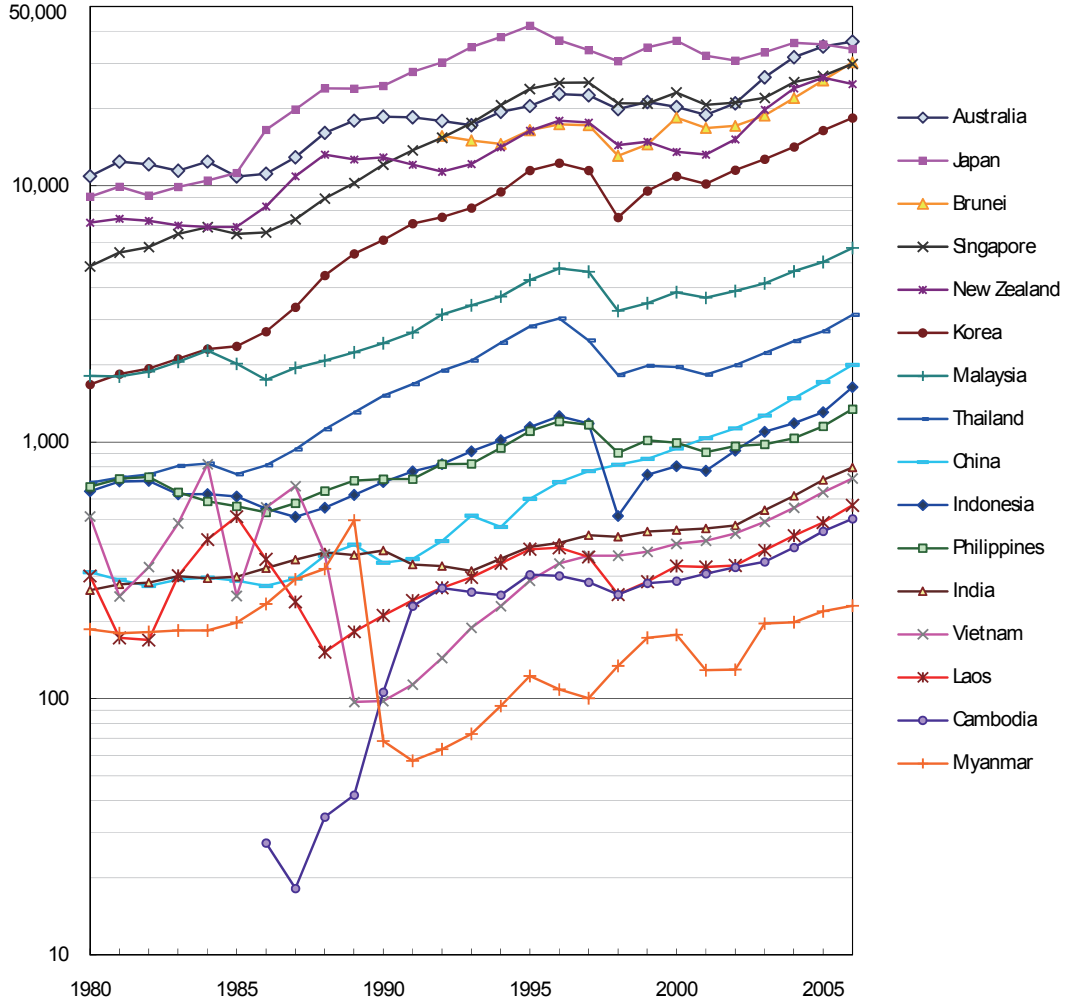
Figure 2-3: GDP per capita in East Asia (US$)



Source: IMF, *World Economic Outlook Database*, April 2007.

The high levels of economic growth have been attributed to not only the competitive edge of East Asian firms but also the overall improvement of the business environment in East Asian countries. The latter includes unilateral tariff reduction, improvements in customs procedures, investment incentive and facilitation measures, such as exemptions of tariffs on intermediate goods and corporate taxes, the provision of one-stop services for FDI, infrastructure building, human resource development, enhancement of capabilities of SMEs, etc. These policy measures reduce trade costs as well as production/investment costs. Free trade agreements (FTAs) are also working as an effective policy measure to reduce trade and production costs.

Figure 2-4: Changes in GDP per capita in the enlarged East Asia (US$)



Source: IMF, *World Economic Outlook Database*, April 2007.

Although the remaining development gaps in the region are still substantial, the wave of economic dynamism starts to cover all over the region. Figure 2-3 depicts GDP per capita by country (in terms of US dollars) in the enlarged East Asia. In 2006, GDP per capita in Australia, Japan, Singapore, Brunei, and New Zealand were more than 100 times higher than in Myanmar, and more than 10 times higher than in China. In contrast, among the EU-27 countries in 2006, GDP per capita in Luxembourg (the highest) was about 20 times that of Bulgaria, and 5 times that of Portugal. Obviously, the income disparity in East Asia is far greater than that in Europe.

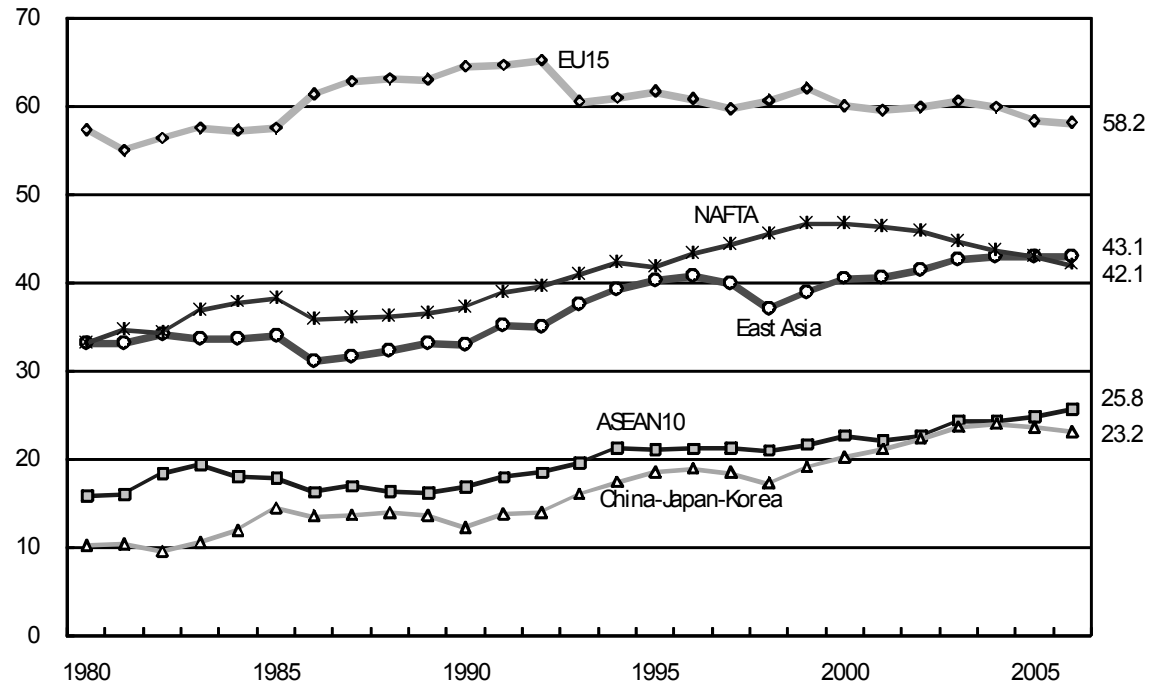
Such big disparities in GDP per capita reflect productivity differences among countries, which in turn reflects differences in both the level of human capital development, and the degree of agglomeration economies enjoyed in each country. Large development gaps provide a big challenge. At the same time, when a proper policy environment is provided, differences can in turn become opportunities for utilizing globalizing forces. In fact, as Figure 2-4 shows, a number of countries in East Asia have been steadily catching-up in per capita GDP in Asian economic dynamism.

2.2. The formation of production networks

Since the early 1990s, international production networks have developed in ASEAN and East Asia. Production-process-wise division of labor has been pursued, resulting in massive vertical intra-industry trade in parts and components within the region.

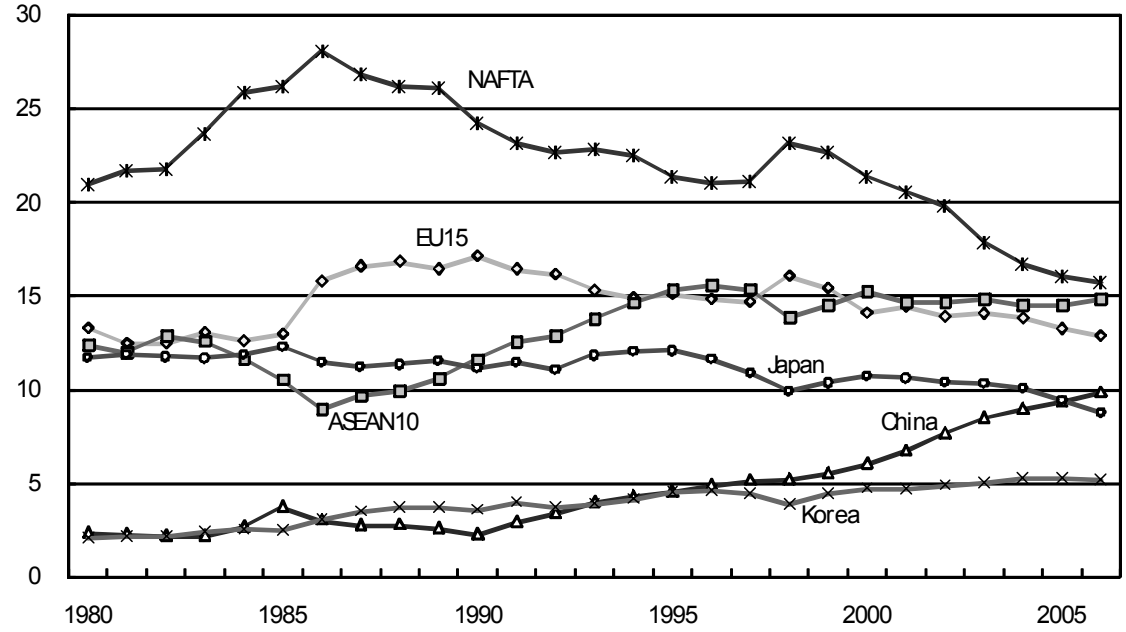
The international trade statistics clearly presents the recent advancement of *de facto* economic integration in East Asia. Figure 2-5 shows the share of intra-regional trade (exports and imports) within several economic areas. The share of intra-regional trade in enlarged East Asia rose steadily from 33.3% in 1980 to 43.1% in 2006. Surprisingly, in 2006, this figure was higher than that of NAFTA (42.1%) though lower than that of the EU (58.2%). East Asia has no doubt achieved a high level of *de facto* economic integration in terms of international trade transactions within the region. The integration process has not been seriously interrupted, even by the Asian currency crisis in the late 1990s.

Figure 2-5: Intra-regional trade (export and import) ratio by region (%)



Source: IMF, *Direction of Trade Statistics*, CD-ROM, May 2007.

Figure 2-6: Trade share of the enlarged East Asia with partner country (%)



Source: IMF, *Direction of Trade Statistics*, CD-ROM, May 2007.

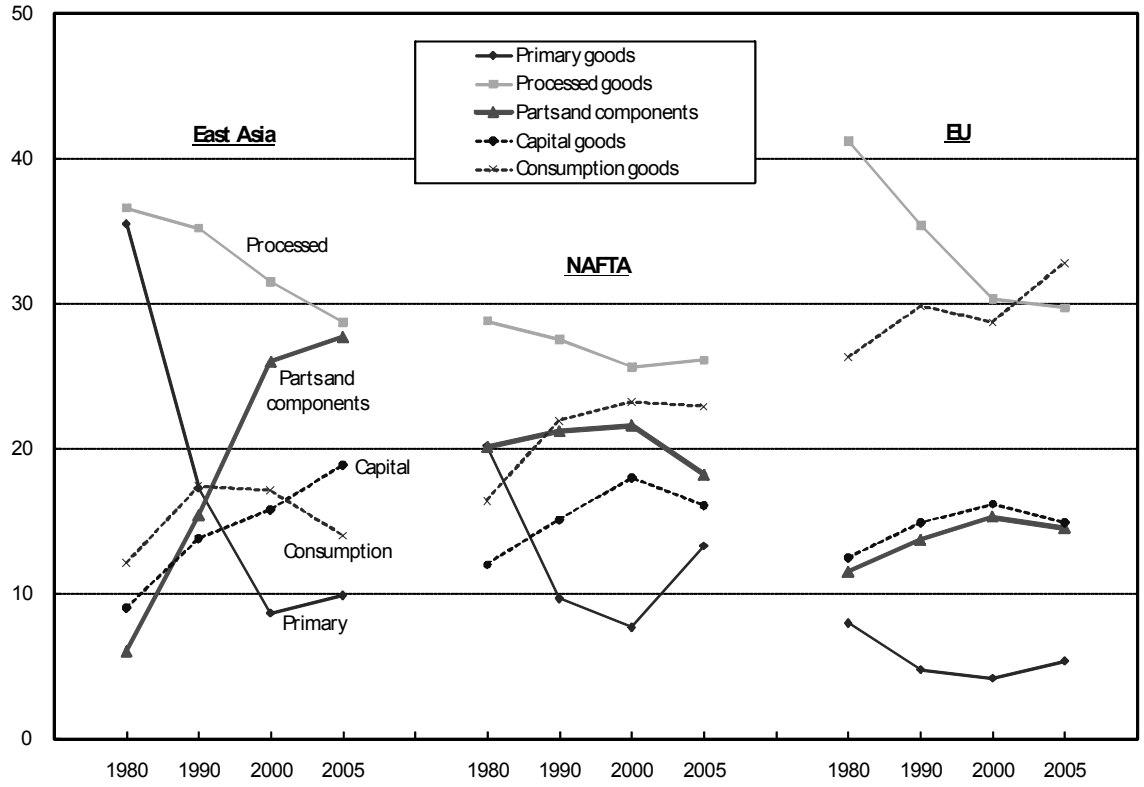
However, economic integration in East Asia does not appear to have developed in an even manner. The share of intra-regional trade of the ASEAN 10 and China–Japan–Korea in 2006 was only 25.8% and 23.2%, respectively, against that of the enlarged East Asia (43.1%), which suggests that economic activities require a large space in which to expand, i.e., the whole East Asia, as the spatial economists argue (Fujita, 2004). Moreover, in Figure 2-6, which shows trade shares of East Asia by partner countries/regions, we can see that China and the ASEAN 10 increased their shares in East Asian trade, in contrast to the gradual decline of Japan. This suggests that countries at relatively low income levels have played a significant role in the expansion of intra-regional trade in East Asia.

It should be noted that trade patterns inside the enlarged East Asia have changed, from the traditional pattern in which final products had been traded based on traditional comparative advantages to a pattern in which there is massive amount of trade in parts and components. To put it differently, intermediate goods in the same industry have actively been traded among the Asian countries, expanding intra-industry and intra-regional trade.

This can be confirmed observing that the import shares of parts and components within East Asia, including Hong Kong and Taiwan, increased from 6.6% in 1980 to 29.5 % in 2004, while the shares of imported processed goods decreased from 38.2% to 27.9% over the same period (Figure 2-7). Surprisingly, the import value of parts and components in East Asia is larger than in NAFTA and EU. East Asia is the largest import region for parts and components, indicating that East Asia has emerged as a region with the most developed machinery industry in the world (Figure 2-8).

Two points should be addressed here. First, East Asia, in particular ASEAN 10 and China, mutually trade parts and components for final products that are assembled within the region. Second, East Asia's production networks are deeply linked with NAFTA and EU (Figure 2-9). NAFTA and EU export much of their parts and components to ASEAN 10 and China, meanwhile China and ASEAN 10 export parts and components, as well as consumer goods, to those advanced regions.

Figure 2-7: Trade pattern inside East Asia (%)

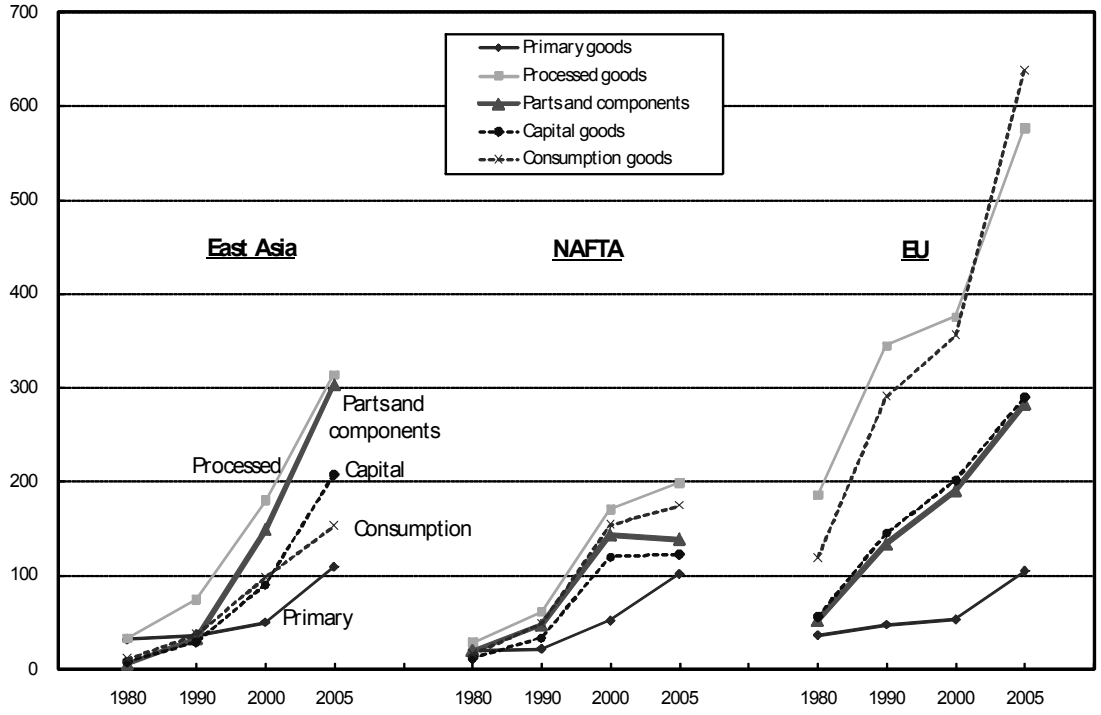


Notes:

1. East Asia includes ASEAN 10 (Brunei Darussalam, Indonesia, Cambodia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam), Australia, India, China, Japan, Korea and New Zealand. NAFTA includes Canada, Mexico and United States. EU is calculated on a 15-country basis. Although the official members of each region may change over the years, calculations have been conducted on the same country basis.
2. Because of data availability, the data on China (1980) and Brunei Darussalam (2000 and 2005) are not included. Data on Laos and Myanmar are substituted by their trade partners', while the data on Cambodia and Vietnam for the years not covered by the UN Comtrade database are also substituted by their partners'. It implies the data may be missing for trade between those countries, because their partners' data may be unavailable as well.
3. This graph is based on BEC-basis data, which are recalculated from SITC-basis using a long-term perspective (1980-2005). The trade goods by production stage include the following items: Primary goods — items under BEC codes 111, 21 31; Processed goods — BEC codes 121, 22, 32; Parts and components — BEC codes 42, 53; Capital goods — BEC codes 41, 521; Consumption goods — BEC codes 112, 122, 51, 522, 61, 62, 63.
4. The values of trade goods are measured by import value on a US dollar basis.

Source: Ozeki (2008). Compiled by IDE-JETRO based on the UN Comtrade database.

Figure 2-8: Trade pattern inside East Asia (billion US$)



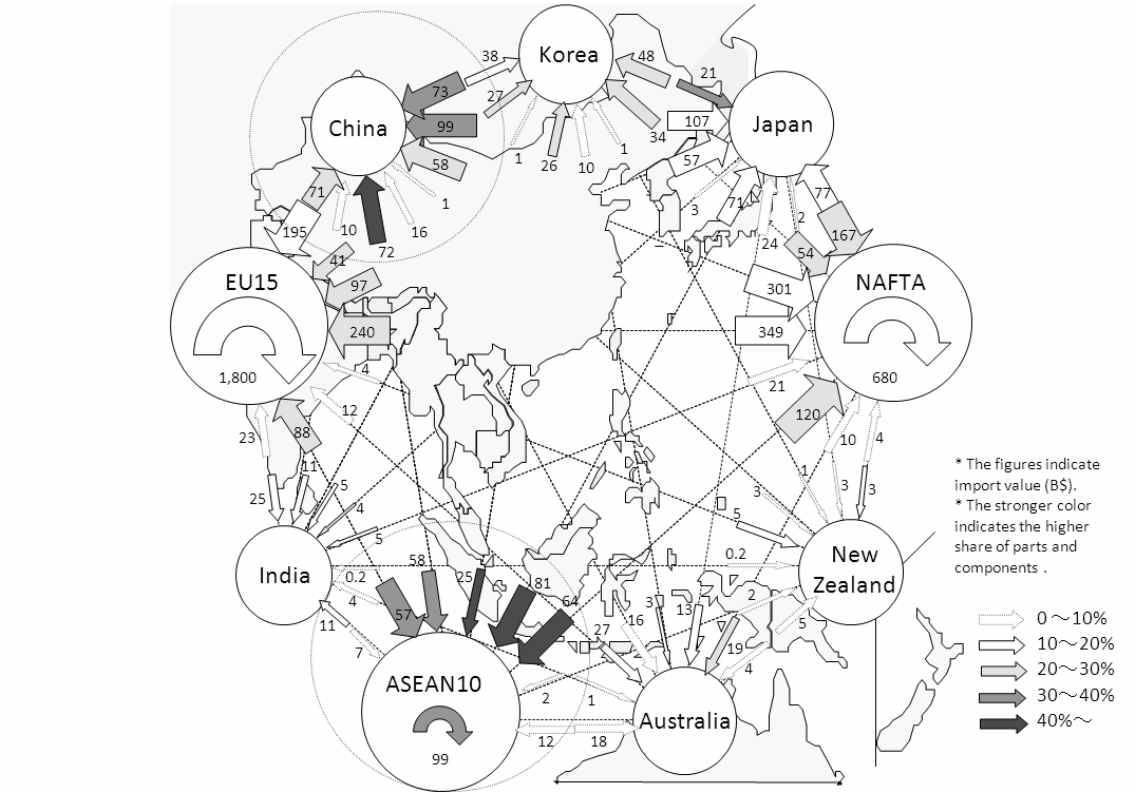
Notes and Source: Same as Figure 2-7.

What we observe in East Asia is an explosive increase in trade in intermediate goods, particularly in machinery industries, based on production-process-wise international division of labor among countries at different income levels and development stages. Trade patterns in today's global competition, where economies of scale strongly work, are quite different from the traditional patterns that are based on static comparative advantage. The entire production processes now involves sequential production blocks that are located in various countries. Different stages of production are performed by suppliers located in different countries. Products traded between firms in different countries are components, rather than final products. Figure 2-10 is an example of production-process-wise division of labor in the hard disc drive manufacturing in East Asia.

This phenomenon is known as cross-border production sharing or fragmentation of production. Production processes are finely sliced into many stages and located in different countries in East Asia. It is theoretically confirmed that, in such vertical specialization, a slight decline in trade costs induces large trade in intermediate goods since goods may move across national borders multiple times. For example, an

intermediate good is exported from country A to country B and is imported back to country A again after processing in country B. In this case, the good goes through customs offices four times. This is what actually happens in East Asia; as trade costs go down, the competitiveness of the entire East Asian region increases greatly.

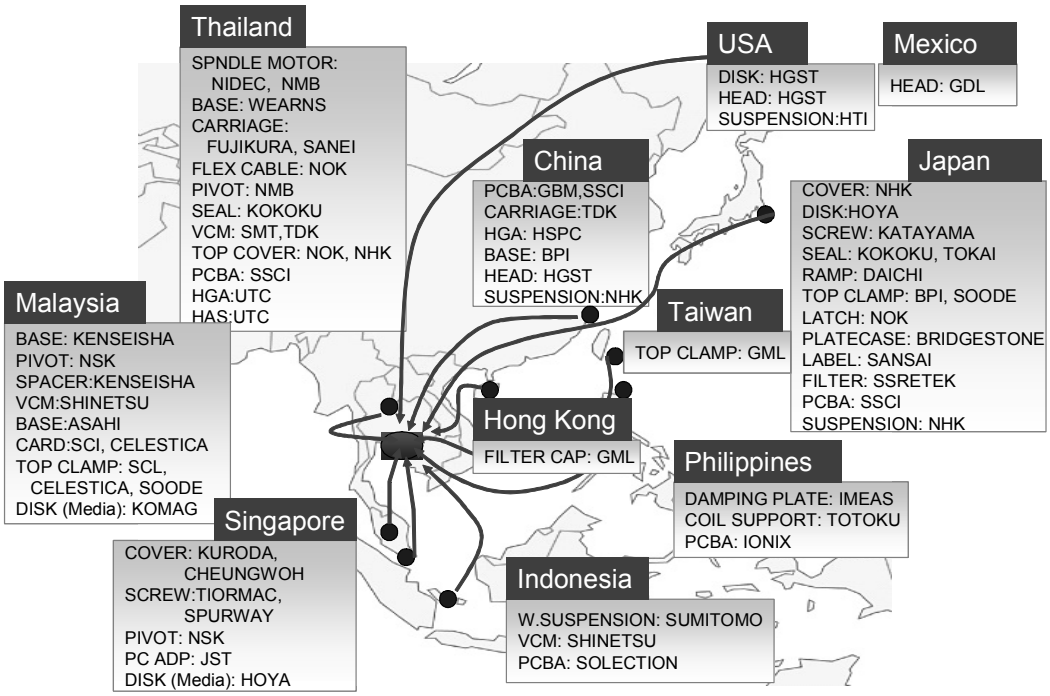
Figure 2-9: Trade map centering on the enlarged East Asia



Notes and source: Same as Figure 2-7.

Anderson and Wincoop (2004) estimated trade costs in developed countries by using a gravity model. They found that the total trade cost was 170%, out of which 21% was for transportation of goods, 44% for border-related trade barriers, and 55% for retail and wholesale distribution costs (2.7 = 1.21 x 1.44 x 1.55). A breakdown of the 44% border-related trade barriers is 8% for policy barriers, 7% for language barriers, 14% for currency barriers, 6% for information barriers (use of different currencies), and 3% for contract enforcement and securities barriers in industrialized countries (1.44 = 1.08 x 1.07 x 1.14 x 1.06 x 1.03). The study suggests that elimination of border barriers other than tariff is also an important issue.

Figure 2-10: International procurement: An example of a hard disc drive assembler in Thailand



Source: Hiratsuka (2006).