

**The Potential Trade Triangle among
"Greater China", Japan and the United States**

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ABSTRACT

This paper analyzes the effects of economic integration among Taiwan, Hong Kong and China, with special reference to its impacts on U.S - Japan trade relations. Combining international trade theory and actual data, the authors illustrate why there is a possible mutual beneficial triangular trade relation among Japan, the United States, and Chinese-based economies in East Asia.

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I. The Emergence of a "Greater China" in East Asia

For more than 30 years Japan has been the economic center of Asia. But since the late 1980's the Chinese Economic Area (CEA) -- embracing China, Hong Kong and Taiwan -- is rapidly emerging as a new epicenter for industry, commerce, and finance. It is currently the world fastest growing economy in terms of rate of investment, industrial expansion, income and export growth.

The Chinese economies on both sides of the Taiwan Strait have grown rapidly in the past two decades. China has surprised the world with its gradual approach to reforms. Its average rate of GDP growth reached 9 percent during 1978-1992. After a decade of incremental diversification of ownership, China has an growing non-state sector which produce more than half of its output. The piecemeal price reform has resulted in an impressive price liberalization for most consumer goods and all but eight major production materials. On the other side of the strait, after three decades of phenomenal export-led growth, Taiwan is becoming a mature market economy and a major supplier of international capital, with one of the largest foreign reserves in the world. Taking account of the reunification of Hong Kong with China by 1997 (Macao by 1999) and the common history and cultural ties with Taiwan and Singapore, we are very likely to witness the emergence of an extremely dynamic Chinese-based economy in East Asia in the near future. It contains an array of potential consumers that far exceeds the markets in Europe and has the potential for providing a principal engine of world growth into the next century.

In spite of huge political differences, there are great mutual economic interests among those Chinese economies. The nature of the island economies of Hong Kong, Taiwan and Singapore suggest that they will need China's continental economy for further development. China has a vast market, unexplored natural resources, and a considerable amount of basic science and heavy industrial technology, but lacks marketing skill, management human resources, and capital. Taiwan and Singapore have capital, marketing skills, and management human resources but need raw materials, markets, cheap labor, and heavy industrial technology. From the long run

point of view, the mutual economic needs will probably override political differences, especially for the young and educated generation of leadership in each of those regions.

The integration of Chinese economies in East Asia is an observed trends. Table 1 presents intra-regional trade ratios among them during the period 1987 -1992. Those data show that these Chinese economies are increasingly trading more among themselves in recent years, especially in terms of exports. The intra-regional export ratios are continuously increasing for almost all the Chinese economies, with an increase of more than 8 percentage points during this five-year period.

There is no doubt that the economies of Hong Kong and China are highly integrated. Trade with Hong Kong has constituted more than one-third of China's total world trade since 1989. The total trade between Hong Kong and the mainland was nearly \$58 billion in 1992, and more than half of the output of Hong Kong has been processed on the mainland since 1990. Hong Kong and China are also the largest investor each other.

Despite serious political barriers, mutual economic interests, geographical and cultural proximity, and the efficiency of Hong Kong as a "commercial middleman" have enabled China and Taiwan to develop rather strong trade and investment linkages in recent years. The indirect trade through Hong Kong increased from \$1.5 billion in 1987 to \$16.3 billion in 1994. The accumulated investment from Taiwan reached \$7.3 billion by September 1994ⁱ, making it the second largest investor in China after Hong Kong. Much of those investments have gone to labor-intensive light industries producing consumer goods for export, and are the most significant factor behind China's successful export drive (Sung, 1992). This expansion of exports was also responsible for the \$3.2 billion drop in total exports from Taiwan and Hong Kong to the United States during the 1987 to 1990 period.

As wages and land costs have risen rapidly in Hong Kong and Taiwan, the labor-intensive industries of Hong Kong and Taiwan have moved to China on a large scale since the early 1980s.

China's open door policy has successfully led Hong Kong and Taiwan firms to shift their overseas investments from Southeast Asia to the mainland. By 1991, Hong Kong manufacturing firms employed 3.4 million workers in the Pearl River delta, while the manufacturing labor force in Hong Kong was only around 0.7 million. This transfer also freed Taiwan's resources for technology/capital-intensive industries, and Hong Kong's labor for more skill-intensive processes such as marketing, product design, and financial services. Both Hong Kong's and Taiwan's manufacturing sectors have thus been able to achieve a higher rate of growth in labor productivity. In addition, the expansion of exports from China also increased the demand for Hong Kong's service industry. The Hong Kong economy has become increasingly service oriented (Sung, 1992).

Obviously, this process of economic integration has been mainly driven by market forces, and will likely continue to be so driven in the years to come. By 1992 the combined trade surplus of the three Chinese economies with the United States was \$28.8 billion, which was nearly 60 percent of Japan's and placed China as the second largest surplus economy in bilateral trade with the United States. To some extent the growing US trade deficit with China reflects a deficit shift from Hong Kong and Taiwan as those regions move their labor-intensive export production to China.

This integrated Chinese economy will soon have a share of world trade almost equal to that of Japan (see Table 2). The merging of Taiwan and Hong Kong's capital and know-how with China's cheap labor will bring the potential for catching up with Japan in the not too distant future. According to World Bank projections, if current trends continue these three Chinese economies will have \$639 billion in net imports in the year 2002, compared to \$521 billion for Japan. The combined output of the three economies would rank ahead of Germany and Japan and be approaching that of the United States if it was valued by standard international prices rather than official exchange rates. This could balance the formidable economic power of Japan in Asia

and increase the possibility of developing a Pacific economic entity proposed by the United States.ⁱⁱ

II. Current Trade Imbalance Among "Greater China", Japan and the United States

Both the U. S. and Japan are important trade partners of the East Asia Chinese economies. Trade with these two developed economies constitutes nearly one-third of their total world trade (45% if excluding intra-region trade), and the exports of these economies are heavily dependent on the U.S. market (more than 20% of their export market). On the other hand, trade relations with the East Asia Chinese economies are also important for both the U.S. and Japan. In 1992, the East Asia Chinese economies constituted nearly 10 percent of the U.S. and 20 percent of the Japanese export markets, respectively, while Chinese commodities took around 14 percent of both the U. S. and Japanese import markets. More interestingly, bilateral trade data in Table 3 show also that as the US trade deficit with "Greater China" increased to \$28.8 billion in 1992, Greater China's trade deficit with Japan also increased to \$26.9 billion.

How this type of trade imbalance in the Sino-US-Japan trade triangle can be explained? And what role will the emerging integrated Chinese economy play in the context of economic relations between Japan and the United States? It is known that tensions in U.S. and Japanese economic relations have been present for some time, and there is a possibility they will grow in the post-Cold War era. They can also be a source of trade friction between China and the United States. Sectorial net trade data in Table 4 show that China is a net importer of manufactured goods from Hong Kong and Taiwan, while all three Chinese economies have large trade deficits in basic manufactured intermediate goods, machinery and transportation equipment with Japan, but a large trade surplus in non-durable consumer goods with the United States. This suggests that the current double triangle of trade relations among China, Hong Kong, and Taiwan, and "Greater China", Japan and the United States, has enabled the Chinese economies in East Asia to become

Japan's second channel of export to the United States. In other words, the more the Chinese economies export to the United States, the more they seem to import from Japan.

Trade surpluses with the United States and deficits with Hong Kong, Taiwan and Japan in manufactured goods are the basic features of China's current foreign trade. This appears to be a combined result of China's market-oriented economic reforms and the relocation of industrial production driven by changing comparative advantages in East Asia that started in the 1970s. The appreciation of the Japanese Yen, followed by that of the New Taiwan Dollar and the depreciation of Chinese Renminbi Yan in the late 1980, further strengthened this structure of trade.

Could this structure of the current Sino-Japan-US trade triangle be changed to enable the integrated Chinese economy to become a positive force for promoting better economic relations between Japan and the United States? And could such a change enhance economic prosperity in the Pacific Rim, thus increasing the possibility of a more rapid development of a Pacific economic identity? How can we ensure that U.S. firms are able to participate more fully in the rising economic opportunities in this "greater Chinese economy"? Obviously, it is an important intellectual task to assess the impacts of economic integration among the three Chinese economies on the rest of the world, and to fully understand the challenge and opportunities it brings to the Asia-Pacific, thus shaping the policy towards such a process.

III. Changing Pattern of Comparative Advantage in East Asia and Across the Pacific

It is well recognized in international trade theory that there are two types of international trade. Trade among developed industrial countries with increasingly similar resource endowments and technology has become more and more intra-industry in natureⁱⁱⁱ, whereas trade between high and low income economies with different factor endowments and stages of technological development still tends to be on an inter-industry basis. China, as a low-income developing country, is weakly endowed with both physical and human capital relative to labor. The reverse is true for Hong Kong, Taiwan, Japan, and the United States. On the other hand, for Hong Kong and Taiwan as newly industrialized economies, their stage of development has been

somewhat between those of Japan, the United States, and mainland China. Because of the diversity of factor endowments and stages of economic development in those economies, the traditional Heckscher-Ohlin arguments may explain trade among them to a large extent.

The major economic theory to explain inter-industry trade is the extended factor proportion theory (Kreinin, 1991). This states that international trade, if not distorted by government policy, reflects differences in comparative advantage among different countries. The source of comparative advantage comes from differences in the relative endowments of productive factors and/or production technologies across countries. Over the long run, trade creation will arise from differences in relative factor availability across countries. Therefore, to evaluate the prospects for economic integration among East Asia Chinese economies and its impact, an understanding of the expected pattern of changes in comparative advantage within the region is essential. The dynamics in relative scarcities of factors of production are the driving force underlying the changing trade patterns and the process of economic integration.

The production factors identified by Krause (1982) and Findlay et al(1985) are agricultural and mineral resources, labor, technology, and human capital. Zou (1990) further disaggregated them into unskilled labor, skilled labor and technology/capital-intensive goods, based on Leamer (1984). He also calculated the Revealed Comparative Advantage Index^{iv} (RCA) and its dynamic trend for major Asia-Pacific countries by using two-digit SITC time series data from 1970 to 1987. The results are summarized in Table 5.

Based on the extended factor proportion theory a country will export the good that is intensive in the factor in which it is relatively abundant, and import commodities that are intensive in its scarce factor. In other words, the direction of net trade flows is a function of the relative factor-intensity of production, and the relative factor abundance among countries. Table 5 indicates that China's comparative advantage has shifted strongly towards labor-intensive exports during the 1980s. The RCA index for agriculture and mineral resource-intensive goods has declined and remains low for capital/technology intensive goods. An opposite trend is evident in

Taiwan, Hong Kong and Korea, where competitiveness in labor-intensive exports is weakening, while competitiveness in capital-intensive exports is strengthening. Japan's comparative advantage has also shifted towards capital- and technology-intensive products. China will likely replace Taiwan, Hong Kong and Korea as a major supplier of unskilled labor-intensive goods. Hong Kong and Taiwan, with a relatively large human capital endowment, have been moving up the ladder of comparative advantage from specializing in labor-intensive consumer goods to a diversification of exports, not only into more sophisticated skill-intensive products (tech-intensive intermediate goods to developing countries), but also into a wide range of higher quality differentiated products (tech- and capital-intensive goods to developed countries). That is, they became an intermediary in regional development similar to the role Japan had played between the United States and the NICs during the 1960s and 1970s.

Contrasting with the declining comparative advantage of agricultural resources among other Asia-Pacific economies considered here, only U.S. agricultural resources seem to have an increasing comparative advantage. The relatively abundant land in the United States and the capital-intensive and high-technology nature of modern agricultural production have caused the United States to rely increasingly on the sale of agricultural products in exchange for manufacture goods from East Asian countries.

There are three aspects of China's comparative advantage in producing labor-intensive commodities. First, low wages alone do not necessarily mean low labor costs since the latter is determined at least in part by output per worker. Therefore, it is more meaningful to compare wage cost per unit of output value among major competing countries. Tables 6 and 7 present data on share of wages in value of output for the textile and electronic industries in relevant countries. These data indicate that China has a much lower labor cost, not only relative to major developed countries, but also relative to all developing countries listed. This includes its major competitors in labor-intensive products, such as India, Mexico, and Malaysia. Labor costs increased in Hong Kong and Taiwan during the 1980s. This is one of the major economic forces that drives the

dramatic transfer of labor-intensive industries from Taiwan and Hong Kong to the south east coast of China.

Second, the size of the labor force in China is very large. The urban labor force of China's export-oriented coastal area alone is larger than the labor forces of Japan and the four NIEs combined, and an additional 120 million underemployed agricultural labors could also be shifted to rural export-producing enterprises. Third, this huge labor force is distributed over vast geographical regions that differ greatly in stages of economic development. This implies that cheap labor will last for quite a long period of time regardless of China's high economic growth rate. The infusion of foreign funds, technology, and marketing expertise will further enhance China's prospective as a high-volume, low-price producer of labor-intensive goods in the years to come.

IV. A Potential Mutual Beneficial Trade Triangle among "Greater China", Japan and the United States

Geography and comparative advantage enable Japan and the United States become the major suppliers of technology/capital-intensive goods and final destination of labor-intensive consumer goods for East Asian Chinese economies. For example, there is strong complementarity between China and those two advanced economies.

Zhu (1991) empirically analyzed China's trade pattern in the period from 1962-1984, using Leamer's new commodity categories developed in the book *Source of International Comparative Advantage* (1984). He found that China is specializing in the production of primary products and textile exports to industrial countries, which are exchanged for machinery and transport equipment and other manufactured goods. Specifically, among the manufacturing aggregates, China was a net exporter of labor-intensive manufactured goods and a net importer of chemicals and machinery; among the raw material aggregates, China is a net exporter of labor-intensive products (tropical/mediterranean and animal products), and a net importer of natural resource-intensive products (cereals, land intensive, and forest products). This trade pattern is consistent

with China's international comparative advantage: abundant labor force, scarce capital and per capita natural resources (especially arable land and forest resources), while the United States has an abundant arable land and technology-capital endowment.

On one hand, in order to modernize its economy and improve efficiency, especially for its infrastructure, China needs to import large amounts of technology/capital-intensive commodities such as chemical fertilizers, plastics, machinery, electronic instruments, power generating and water supply facilities, communication, transportation and construction equipment (estimated at up to \$1.2 trillion by the year 2000^v). As its labor-intensive export-oriented industries create more and more foreign exchange, China's import capacity for such commodities will tend to grow continuously. This will convert its massive infrastructure needs into effective demand and thus extend the export market for American firms. U.S. industries that produce goods linked to infrastructure expansion are highly competitive (Heginbotham, 1993).

On the other hand, daily necessities of middle- and low-income families in the consumer market of the United States account for most of the labor-intensive commodities that traditionally are imported from Asia. Since China can offer such products well below the price that is offered by NIEs in the past, the consumer price will be driven down, and the welfare of the American consumer, especially low and middle income families, will be improved.

The United States and Japan are the world's two largest import and export countries, but the composition of their exports and imports is quite different, both in bilateral trade and in trade with the rest of the world. In 1990, the lion's share of Japanese exports was durable manufactures, especially machinery and equipment (56.1%). Agriculture (11.1%) and basic intermediate manufactured goods (20.3%) also accounted for a large part of U.S. exports, in addition to machinery and equipment (42.3%). Japan is the largest market for U.S. agricultural exports (26.93% of total U.S. agricultural exports), while the United States is the largest market for Japanese machinery and equipment exports (34.2%). In bilateral trade, almost all exports from Japan to the United States are manufactured goods (99.4%), with a concentrating in machinery

and transportation equipment (79.2%)^{vi}, which is the largest trade surplus industry in Japan. Exports from the United States to Japan, on the other hand, are considerably more diversified.

This trade pattern offers an opportunity for East Asian Chinese economy to become a moderate force to reduce the trade and economic friction between Japan and the United States. The intuitive idea is that with the merging of low-cost labor from the mainland and the capital, managerial skills, and marketing expertise from Taiwan and Hong Kong, China will become a major supplier of labor-intensive consumer goods for both Japan and the United States. As Chinese exports and the capacity for earning foreign exchange increase in this process, the demand for infrastructure in China will increase. This will expand its vast market for technology/capital-intensive manufactured durables (mainly machinery and equipment) for Japan and the United States, which will strengthen the position of U.S. and Japan as major suppliers for China's industrialization program. Lower prices for consumer goods and increases in income from exporting manufactured durables will increase the purchasing power of U.S. and Japanese consumers, further extending their domestic market. However, there are also negative aspects to this triangle of trade relations. Since the trade creation discussed above is mainly related to inter-industry trade, as trade expands among the three economies it will create the need for adjustments in the structure of production. Resources in the importing country must shift from one sector to another rather than within segments of the same industry. This may create rather large short-term adjustment costs, especially for Japan^{vii} .

There are two related conditions for the U.S.-Japan-China triangle of trade relations to function properly. First, China must obtain sufficient capital and suitable technologies to make full use of its large amount of cheap labor to produce consumer goods that can be sold on the Japanese and American markets. Second, China will need to spend a major part of its export earnings to buy technology/capital-intensive products from Japan and the United States for its modernization program. The integration of Hong Kong, Taiwan and China has played, and will continue to play, a very important role in meeting those two conditions. For China, foreign direct investment is the

key to success for the export-oriented development strategy since "foreign" capital usually brings "know-how", "state-of-the-art" production equipment, market channels, and product designs that are of sufficiently high quality to meet the standards of the world market.

During the reform period, more than two-thirds of China's foreign direct investment actually came from Hong Kong and Taiwan. Moreover, international experience shows that countries that are relatively close to each other in their stage of development will experience a greater transfer of new technology than countries further apart. Since the stage of development of Taiwan and Hong Kong is between that of China and Japan, as well as that of the United States, the integration of the three Chinese economies will accelerate the technology transfer process.

As more and more intermediate goods are imported from Taiwan and Hong Kong to the mainland for production or processing/assembling operations, and then re-exported to the American and Japanese markets, the technology transfer and intra-industry trade between Taiwan, Hong Kong, and industrial countries will be stimulated. In order to reallocate their resources and upgrade their industrial structures, Taiwan and Hong Kong will need to import more technology and capital-intensive goods from Japan and the United States. The integration will enhance the capacity of the Chinese economy as a whole to engage in intra-industry trade, and thus likely significantly increase the volume of trade (extension of the world market) among Japan, the United States and the Chinese-based economy in East Asia.

At the same time, **since the integrated Chinese economy also has a large trade deficit with Japan, it will have the same economic interests as the United States in pushing Japan to further open its domestic market.** This is also a key to meeting the earlier condition and reducing the tensions between Japan and the United states. By adding an additional powerful player, the dynamics of this cooperative game will be different. On the other hand, for Japan and the United States, importing labor-intensive consumer goods from China can not only lower their domestic prices, but also create effective demand for their technology/capital-intensive products in the

world's largest potential market. This mutually beneficial triangular trade relationship among Japan, the United States and the joined Chinese economy can be shown in Figure 1.1.

V. Concluding Remarks

The world economy is under transition. East Asia is also experiencing a shift from its previous dependence on export-led growth to a growing new dependence on domestic demand, both from consumer goods and infrastructure sectors. On the one hand, 15 years of market-oriented economic reform and integration with Hong Kong and Taiwan has made China a major player in international trade, with a total trade volume of \$195.7 billion in 1993. On the other hand, China's recent infrastructure privatization program made Chinese-based economies the leading market for Foreign Direct Investment in that region during the 1990s (Heginbotham, 1993). There are great opportunities for the U.S. to shape its new economic development and security strategies for the post-Cold War era by this demand-driven rising economic tide in Asia. The Japan-US-"Greater China" trade triangle discussed in this paper may constitute a framework for further research and policy debate.

Notes:

- i. *China Daily*, overseas edition, March 8, 1994. Speech by Minister of Foreign Trade of People's Republic of China.
- ii. A power triangle consisting of the "Greater China", Japan, and the U.S. may bear a resemblance to the power balance among West Germany, France and Britain, which is the foundation of the European Community. No one can dominate in the region, but everyone may benefit from mutual coordination (Chen, 1988).
- iii. This refers to trade between industries that produce commodities with similar input requirements and high substitutability in use, such as cars with similar characteristics but manufactured by different producers.
- iv. RCA is the share of each commodity group in an economy's total exports divided by that commodity group's share of world exports. (See Balassa, 1965) If the economy's export specialization has not been distorted by government policies, the ranking of RCA values indicates comparative advantage relative to the rest of the world. Formally, denoting E_{ij} to be the export of good i of country j , and assuming that there are n commodities and m countries engaged in trade, then the RCA can be defined as:

$$RCA_{ij} = \frac{E_{ij} / \sum_{i=1}^n E_{ij}}{(\sum_{j=1}^m E_{ij} / \sum_{i=1}^n \sum_{j=1}^m E_{ij})}$$

Share of good i Good i 's share

in country j's in world export
total export

In practice, the ranking of the RCA index usually not only reflects fundamental comparative advantage, but also government policy distortions, which may subsidize or restrict exports of particular commodities.

v. Richard D. Fisher, Jr. A Job Strategy for America: "Expanding Free trade with Asia." Washington D.C. Asia Study Center, April 23, 1993, p.4.

vi. These data on the structure of trade were calculated from the seven-region, six-sector world Social Accounting Matrix estimated by one of the authors (Wang, 1994) based on GTAP data base.

vii. The labor-intensive light consumer goods pouring into the United States from China do not displace a large number of U.S. jobs. As described earlier, they mostly replace jobs in Taiwan, Hong Kong and South Korea as their labor-intensive industries shift to China. Such jobs in the United States were lost to the NICs twenty years ago.

Table 1 Intra-Regional Trade Ratios among East Asia Chinese Economies During 1987-1992^a

(Intra-region trade as a percentage of total trade)

Trading Regions	Imports						Exports					
	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992
China	19.77	21.95	21.45	27.05	27.55	25.3	35.96	39.17	42.30	42.9	45.34	44.06
Hong Kong	40.57	40.61	44.55	46.11	47.5	46.4	27.63	31.53	30.33	29.84	32.11	34.24
Macco	70.12	69.19	68.49	71.19	64.68	59.59	19.41	17.77	18.12	17.57	21.79	23.04
Taiwan	4.47	4.55	5.21	6.45	6.21	5.85	8.09	9.51	10.24	11.38	12.83	13.96
CMM1	23.97	24.24	26.33	29.83	30.61	29.83	22.52	25.81	26.69	27.94	29.99	31.39
China	21.20	23.79	23.99	28.61	29.21	26.81	39.31	42.30	45.50	46.03	48.13	46.42
Hong Kong	44.37	44.31	48.50	50.17	51.54	50.49	30.37	34.35	33.29	33.02	34.84	36.86
Macco	70.44	69.61	68.86	71.7	65.22	60.09	19.43	17.95	18.33	17.84	22.06	23.14
Taiwan	6.73	6.79	7.82	9.98	9.49	7.99	10.88	12.79	13.66	15.27	16.41	17.35
Singapore	11.56	11.15	10.8	10.78	10.47	11.07	11.61	12.12	12.01	11.62	12.2	14.65
CMM2	23.47	23.66	25.47	27.65	28.54	28.02	23.11	25.75	26.49	27.43	28.98	31.28

^aCMM2 is the sum of all chinese economies listed; CMM1 does not include Singapore.

Data Source: Calculated from "Direction of Trade Statistical Year Book." International Monetary Fund, 1993.

Table 3 Imports, Exports, and Balance of Trade Among Japan, United States and the Chinese Economies (China, Hong Kong and Taiwan)

	1987-1992						
	1987	1988	1989	1990	1991	1992	AVERAGE
GROWTH RATE							
US IMPORT FROM CHINESE ECONOMIES	40,692	43,064	47,569	47,490	51,429	60,566	8.28%
SHARE IN US TOTAL IMPORT	10.46%	10.20%	10.03%	9.85%	10.78%	11.63%	--
SHARE IN CHINESE TOTAL EXPORT	28.47%	24.92%	24.62%	23.12%	21.51%	21.67%	--
US EXPORT TO CHINESE ECONOMIES	14,898	22,689	23,445	23,216	27,630	31,763	16.35%
SHARE IN US TOTAL EXPORT	5.89%	7.10%	6.44%	5.91%	6.55%	7.10%	--
SHARE IN CHINESE TOTAL IMPORT	13.09%	14.7%	14.04%	12.94%	11.88%	11.93%	--
US TRADE BALANCE WITH CHINESE ECONOMIES	-25,794	-20,375	-24,124	-24,274	-23,799	-28,803	2.23%
JAPAN IMPORT FROM CHINESE ECONOMIES	15,879	20,567	22,059	22,280	24,7876	27,129	11.31%
SHARE IN JAPAN TOTAL IMPORT	10.81%	11.09%	10.64%	9.70%	10.92%	12.24%	--
SHARE IN CHINESE TOTAL EXPORT	11.11%	11.90%	11.42%	10.45%	10.12%	9.49%	--

JAPAN EXPORT TO CHINESE ECONOMIES	28,763	35,589	35,342	34,772	43,314	54,016	13.43%
SHARE IN JAPAN TOTAL EXPORT	12.43%	13.43%	12.87%	12.09%	13.76%	15.89%	--
SHARE IN CHINESE TOTAL IMPORT	24.54%	22.30%	20.98%	19.29%	19.83%	20.53%	--
JAPAN TRADE BALANCE WITH CHINESE ECONOMIES	12,885	15,022	13,283	12,492	18,527	26,887	15.85%
US IMPORT FROM JAPAN	85,017	90,245	93,954	91,121	92,200	96,716	2.61%
SHARE IN US TOTAL IMPORT	20.77%	20.26%	19.68%	18.00%	18.66%	18.00%	--
SHARE IN JAPAN TOTAL EXPORT	36.75%	34.06%	34.22%	31.67%	29.28%	28.45%	--
US EXPORT TO JAPAN	28,249	37,620	44,584	48,585	48,147	47,764	11.08%
SHARE IN US TOTAL EXPORT	11.17%	11.78%	12.25%	12.36%	11.42%	10.68%	--
SHARE IN JAPAN TOTAL IMPORT	21.18%	22.54%	23.02%	22.46%	22.67%	22.62%	--
US TRADE BALANCE WITH JAPAN	-56,768	-52,625	-49,370	-42,536	-44,053	-48,952	-2.92%

Data Source: "Direction of Trade Statistical Year Book." International Monetary Fund, 1992.

Table 2 Trade Volume of Economic regions in 1992

(in millions of the U.S. dollars)

Trading Regions ^a	China	Hong Kong	Macao	Taiwan	Singapore	CMM1	CMM2	Japan	U.S.A.
Gross Export	86,220	119,512	1,757.2	81,410.0	49,604	288,899.2	338503.20	339,991	447,400
World Share	2.34%	3.24%	0.05%	2.21%	1.35%	7.84%	9.18%	9.22%	12.13%
Gross Import	81,739	123,430	1,951.3	72,261.0	76,129	279,381.3	355,510.3	232,947	552,616
World Share	2.13%	3.21%	0.05%	1.88%	1.98%	7.26%	9.24%	6.06%	14.37%

^a CMM2 the sum of all chinese economies listed; CMM1 does not include Singapore.

Data Source: "Direction of Trade Statistical Year Book." International Monetary Fund, 1992.

Table 4 Direction of Net Trade Flows Among Economic Regions

1990

(in millions US dollars)

	China	Hong Kong	Taiwan	Japan	U.S.A.	EC(12)	ROW
CHINA							
Food & Agriculture	-	1084.32	162.29	2627.08	-572.71	785.73	-100.62
Minerals & Energy	-	69.59	48.97	2680.85	743.61	216.65	-376.23
Basic Intermediate	-	-282.38	-801.52	-1142.07	783.08	412.51	-2154.33
Machinery	-	-5221.14	-1272.37	-4262.35	-614.39	-3064.90	-679.19
Other Manufactures	-	-3732.96	-2062.66	3012.05	7957.14	6924.55	6539.83
Services	-	27.95	-1.07	-17.81	-0.34	-0.22	188.86
HONG KONG							
Food & Agriculture	-1084.32	-	-49.63	-56.54	-943.08	-622.90	-1439.15
Minerals & Energy	-69.59	-	11.48	132.45	-114.31	-68.75	-578.56
Basic Intermediate	282.38	-	-1069.78	-1540.35	179.78	-794.55	-1833.23
Machinery	5221.14	-	-748.65	-3133.52	1570.77	1243.18	1767.81
Other Manufactures	3732.96	-	-1590.62	-1008.07	5422.55	4361.22	1094.35
Services	-27.95	-	-65.51	616.65	-189.44	-232.94	-270.14
TAIWAN							
Food & Agriculture	-162.29	49.63	-	1717.64	-1851.84	-318.50	-1709.03
Minerals & Energy	-48.97	-11.48	-	-41.39	-272.99	-36.96	-4532.10
Basic Intermediate	801.52	1069.78	-	-2380.96	2183.23	-230.05	-1322.16
Machinery	1272.37	748.65	-	-7367.82	4562.78	3068.50	5277.48
Other Manufactures	2062.66	1590.62	-	890.69	7519.57	2712.42	5086.88
Services	1.07	65.51	-	1462.54	127.58	-927.40	10009.24
JAPAN							

Food & Agriculture	-2627.08	56.54	-1717.64	-	-13387.25	-3061.27	-18172.38
Minerals & Energy	-2680.85	-132.45	41.39	-	-1579.58	-995.57	-51140.76
Basic Intermediate	1142.07	1540.35	2380.96	-	-2690.40	-2421.92	-223.00
Machinery	4262.34	3133.52	7367.82	-	54072.30	33214.80	68271.68
Other Manufactures	-3012.05	1008.06	-890.69	-	4169.39	-1392.16	-743.01
Services	17.81	-616.65	-1462.54	-	-7262.73	-2538.54	71968.80

UNITED STATES

Food & Agriculture	572.71	943.08	1851.83	13387.25	-	2084.15	-487.80
Minerals & Energy	-743.61	114.31	273.99	1579.58	-	-266.83	-50375.65
Basic Intermediate	-783.08	-179.78	-2183.23	2690.40	-	-4103.20	-14650.10
Machinery	614.39	-1570.77	-4562.78	-54072.30	-	9068.10	25405.20
Other Manufactures	-7957.14	-5422.55	-7519.57	-4169.39	-	-3882.57	-15660.80
Services	0.34	189.44	-127.58	7262.73	-	-243.31	40577.00

Data Source: Calculated from a seven-region, six-sector Global Social Accounting Matrix estimated by one of the authors (Wang, 1994) based on data base of Global Trade Analysis Project (GTAP). (Hertel, T.W. and M.E. Tsigas, 1993).

Table 5 Revealed Comparative Advantage of Major Asia-Pacific Countries in 1987 and Their Dynamic Trends to the Year 2000^a

	China	ASEAN	Korea	Taiwan	H.K.	Japan	U.S.
Agricultural Resources	1.32	1.93	0.41	0.75	0.09	0.13	2.01
	(-)	(-)	(-)	(-)	(-)	(-)	(+)
Mineral Resources	0.66	1.52	0.10	0.05	0.04	0.04	0.42
	(-)	(+)	(-)	(-)	(-)	(-)	(-)
Unskilled Labor	3.53	0.71	2.91	2.37	2.12	0.91	0.53
	(+++)	(++)	(-)	(-)	(-)	(-)	(0)
Skilled Labor	2.67	1.09	2.56	4.62	4.56	1.12	1.32
	(++)	(+)	(-)	(-)	(+)	(-)	(-)
Technology & Capital Int.	0.32	0.72	0.92	0.78	1.31	3.91	3.85
	(+)	(+)	(+++)	(++)	(0)	(++)	(+)

^a The sign in parentheses represents the trend of RCA, + RCA increased; - RCA decreased; and 0 no change on RCA. Scenarios were extrapolated from the baseline model (see Drobnick and Enzer, 1988).

Data Source: Zou, G. Jun Ma and Zhigang Wang, "China's Coastal Development Strategy and Pacific Rim Economic Integration." *The Journal of East and West Studies*, Vol. 19, 1990(2):58-61.

Table 6 Share of Wages in Output Value for the textile Industries

	(ISIC 321)									
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
China	3.3	3.5	3.3	3.8	3.7	4.4	7.14	8.6	7.48	7.81
Hong Kong	14.2	14.8	12.6	13.7	15.8	14.6	15.3	15.6	15.2	
India	11	14	14.8	14.4	13	14.3	13.6	-	-	
Malaysia	12.9	12.5	12.8	13.6	13.7	11.6	10.3	10	9.6	
Mexico	-	-	-	-	17.2	15.6	14.4	14.9	15.5	15.4
Japan	18.4	18.4	18.2	18.2	17.2	18.4	18.4	18.2	18.3	
South Korea	11.8	12.8	12.5	12.5	12.1	11.7	11.9	12.6	14.6	
Taiwan	10.9	12.4	13.1	12.7	13.8	13.1	-	-	-	
U.S.A.	19.1	19.4	18.8	18.5	19	18.9	18.5	18.3	18	17.9

Data Source: Calculated from "Industrial Statistics Yearbook, Book I: General Industrial Statistics." United Nations, 1985 and 1990.

Table 7 Share of Wages in Output Value for the Electrical Machinery Industries

	(ISIC 383)									
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990

China	7.5	6.9	6	6.2	5.9	6.6	5.28	4.94	5.53	5.81
Hong Kong	11.2	12.2	12.1	12.8	14.5	12.5	10.6	10.3	11.5	
India	9.9	10.7	12.1	12.3	11.4	11.1	16.0	-	-	
Malaysia	8.9	9.7	9.5	9.3	11.2	10	8	7.2	6.7	
Mexico	5.7	5.6	13.4	13	13.4	14.6	12.1	12.5	13.4	13.8
Japan	14.4	14.7	14.4	13.2	13.6	14.6	14.7	13.9	13.8	
Singapore	10.8	12.6	11.6	10.5	11.6	9.4	7.8	7.8	8	8.3
South Korea	11.3	11.3	9.9	9.7	10.5	9.2	9.7	10.3	11.8	
Taiwan	12.9	13.1	13	14.3	14.6	16.1	-	-	-	
U.S.A.	25	25.8	25.7	24.4	25.1	25.1	22.5	21.7	21.6	21.4

Data Source: Calculated from "Industrial Statistics Yearbook, Book I: General Industrial Statistics." United Nations, 1985 and 1990.

Figure 1.1 Triangle Relation among the United States, Japan and a "Greater China".

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