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The ASEAN+3 Trading Bloc

Yum K. Kwan
City University of Hong Kong

Larry D. Qiu
The University of Hong Kong

Abstract

The ASEAN+3 proposal has attracted attention in Asia and the world. We argue that a free trade agreement (FTA) for ASEAN+3 is beneficial to all member countries due to three factors: (i) existing and expected vertical foreign direct investment linkage between Japan/Korea and ASEAN member countries, (ii) high expected growth rate of the Chinese economy, and (iii) the economic diversity among members of ASEAN+3 group.

- **JEL Classification:** F13, F15, F53
- **Key Words:** ASEAN, free trade agreement, trade creation, trade diversion, foreign direct investment, trading bloc

I. Introduction

Since the inception of the General Agreement on Tariffs and Trade (GATT), there have been more than 240 regional trade arrangements (RTAs) or preferential trade arrangements (PTAs), a large portion of which are regional free trade agreements (FTAs). The pace of PTA growth since the establishment of the World Trade Organization (WTO) is much faster than before the WTO existed. The proliferation of PTAs has attracted public attention.

While many countries are involved in more than one PTA or FTA, it is

*Corresponding address: Larry D. Qiu: School of Economics and Finance, University of Hong Kong, Hong Kong, Tel: (852) 2859-1043, e-mail: larryqiu@hku.hk.

interesting to observe that until very recently there are relatively few PTAs or FTAs in Asia, and some Asian countries have not participated in any PTA or FTA. The Association of Southeast Asian Nations (ASEAN) was formed in 1967 by the Bangkok Declaration, but it was initially for political purposes. It was only in 1992 that ASEAN became an economic entity when members decided to establish the ASEAN Free Trade Area (AFTA).

In 1994, the leaders of China, Japan, and South Korea were invited for the first time to attend the annual ASEAN forum as dialogue partners. During the November 2000 ASEAN summit in Singapore, the idea of extending AFTA to Northeast Asia to create a greater East Asia trade and economic grouping – the ASEAN+3 FTA - was suggested by Mr. Kim Dae-jung, then President of South Korea. In addition, Mr. Zhu Rongji, then Premier of China also proposed the creation of a China-ASEAN free trade zone in a move aimed at easing the region's concerns over a negative backlash from China joining the WTO. Although the goal of formally enlarging AFTA to include all countries in East Asia was deemed premature, the leaders of the ASEAN+3 countries agreed to form expert panels to study the idea seriously.[1] Today, almost ten years after the initial proposal, ASEAN+3 FTA is still not in existence. Instead, the three countries have formed their FTAs with ASEAN individually, with Korea in 2006, Japan in 2008, and China in 2010. It is therefore natural to ask whether we should still have the ASEAN+3 FTA.

The main motivation behind the ASEAN+3 proposal is to help all members match the pace of globalization and benefit from the economic developments of the region. Although the proposal includes many areas of cooperation, such as capital flow and exchange rates, in this paper we mainly address the international trade issue. More specifically, we ask if there should be an FTA for ASEAN+3. This is the first paper to provide a thorough economic analysis to ASEAN+3 FTA.

[1] On a less formal level, the ASEAN+3 process of expanding and deepening cooperation between ASEAN and China, Japan and South Korea is rapidly gaining momentum. The ASEAN+3 finance ministers have embarked on solid cooperative undertakings. These include the joint monitoring of financial and economic movements in East Asia and in the world and a network of currency swaps and repurchase agreements to make resources available to countries in balance-of-payments difficulties. The ASEAN+3 economic ministers have agreed on priority areas for cooperation and the guidelines for carrying out such cooperation, for example, in establishing conformable industrial standards, strengthening the competitiveness of small scale enterprises, and training on the use of practical technology for environment protection. Updated information about various developments of the ASEAN+3 process mentioned in this section can be found from ASEAN°Øs official website: www.aseansec.org.

While the formation of an ASEAN+3 FTA may produce both negative and positive effects on each of the member countries as well as on the rest of the world, we would argue that it will provide great benefits to the member countries. Among many reasons for the need to establish an FTA among ASEAN+3 countries, we focus on three important characteristics of this region's economic ties and developments. First, the existing foreign direct investment (FDI) linkage between the Southeast Asian countries (ASEAN) and the Northeast Asian countries (Japan and Korea) makes such a regional FTA more desirable and beneficial. The FTA in return would further facilitate flows of FDI from the Northeast to the Southeast. Second, China has a large and rapidly growing economy. While China's economic development is still on a par with many of the ASEAN countries, China and the ASEAN countries are not competing head to head in every sector. There are many complementary areas between the two regions and the gains from trade creation are likely to be substantial. Third, there exits great diversity among all member countries of ASEAN+3 in terms of natural endowments, technology advancement, and industrial structures. Such diversity would help minimize trade diversions in the formation of an ASEAN+3 FTA.[2]

Other considerations/incentives for FTAs have been studied in the literature. For example, Whalley (1998) has analyzed the impacts of regional FTAs on individual countries' welfare and incentives. He identifies six objectives for joining an FTA. First, through reciprocal exchanges of concessions on trade barriers, there will be improvements in market access from which all parties of the free trade agreement will benefit. However, this is only true conditional on trade creation gains being larger than trade diversion losses. Second, governments of member countries can use an FTA to lock in domestic policy reform towards trade liberalization. This incentive is especially strong for countries whose governments are relatively weak in domestic policy making. Binding to an FTA helps these governments to show commitment to domestic interest groups in preventing policy reversals in the future.[3] Third, when individual countries are not large, by forming a customs union, they together can increase their bargaining power vis-à-vis any outside country.[4] Fourth, a small country, like Canada, may have incentives to sign an FTA

[2]Krugman (1991) argues that Asia is a natural trading block, an idea that has received strong empirical support from Frankel *et al*. (1995) based on the gravity model.
[3]Whalley (1998) pointed out that this was the main objective of the Mexican government in joining the NAFTA.
[4]Whalley (1998) cited the EU as such an example.

with a large country, like the United States, to secure its market access to the large market. Fifth, there is strategic linkage between trade and other regional issues. By forming FTAs, member countries may reduce potential conflicts among themselves. Lastly, it is believed that regional trade arrangements and multilateral trade negotiations affect each other. It is hoped that forming a regional FTA may push forward multinational trade liberalization.[5] After examining many existing regional trade agreements, Whalley (1998) concludes that some objectives may quantitatively dominate others in certain agreements.

In the rest of the paper, we first describe in Section II the economic features of the ASEAN + 3 countries, and then some institutional background about ASEAN and its direction of trade. In Section III we analyze the welfare implications of establishing the ASEAN+3 FTA and explain why the FTA is likely to be beneficial to all member countries. Concluding remarks are offered in Section IV.

II. The Economies of ASEAN+3

The ASEAN+3 countries exhibit considerable diversities in size, factor endowment, economic structure, trade orientation, level of economic development, and socio-cultural background. An overview of the ASEAN+3 economies is reported in Table 1. The ten ASEAN countries together have a population of over 565 million as of 2007 and yet their economies accounted for only about 5% of world trade. The ASEAN group is a net exporter of merchandise and net importer of commercial services. Malaysia, Singapore and Thailand are responsible for most of ASEAN's trade, and they together account for about 4% of world trade. On the other hand, the three northeast Asian countries, China, Japan and Korea, are all prominent players in world trade, with Japan alone accounting for 7.5% of merchandise exports and 8.5% of services imports in the world. All together, ASEAN+3 as a group accounts for about 20% of world trade in goods and 15% of world trade in services, with the trade surplus in merchandise and a trade deficit in commercial services considerably wider than the case of ASEAN alone.

With regard to comparative advantages, ASEAN countries except Singapore are mainly exporters of primary and labor-intensive products. Singapore with its strategic location and free trade policy has served as the regional entrepot for

[5]It is often argued that the United States showed interest in joining APEC in order to push the movement of the Uruguay Round.

Table 1. Basic Economic Indicators (2007)

	Area ('000 sq. km)	Population (million)	GDP per capita (US$)	Export		Import	
				Goods	Services	Goods	Services
				(share of world value, %)			
Brunei	6.0	0.4	30750	0.1	n.a.	0.0	n.a.
Indonesia	1905.0	224.9	1925	0.8	n.a.	0.6	n.a.
Malaysia	330.0	26.8	6966	1.3	0.9	1.0	0.9
Philippines	300.0	88.6	1626	0.4	0.2	0.4	0.2
Singapore	1.0	4.6	35065	2.1	2.0	1.8	2.3
Thailand	513.0	65.7	3735	1.1	0.9	1.0	1.2
Vietnam	332.0	85.6	828	0.3	0.2	0.4	0.2
ASEAN(10)	4482.0	565.2		6.2	4.3	5.4	4.9
China	9561.0	1321.1	2483	8.7	3.7	6.7	4.2
Japan	378.0	127.8	34285	5.1	3.9	4.4	4.8
Korea	99.0	48.5	19998	2.7	1.9	2.5	2.7
ASEAN+3	14520.0	2062.6		22.7	13.7	19.0	16.6

Notes: a. Data source: APEC (1999, 2008), WTO (2008) and World Bank (2006).
b. ASEAN(10) = The seven ASEAN countries listed in the table plus Cambodia, Laos, and Myanmar.

decades. It is the manufacturing base for multinational corporations and a regional commercial, transportation, and financial hub. These facts are reflected in the very large export/import figures in both merchandise and commercial services, and an export of technology- and human capital-intensive commodities in Singapore. Japan and Korea have comparative advantages in capital and technology intensive goods, implying a pattern of factor endowments that is complementary to those of ASEAN countries and China.

A. The ASEAN Free Trade Area (AFTA)[6]

ASEAN was established as a political organization in 1967 by the non-socialist countries of Indonesia, Malaysia, the Philippines, Singapore, and Thailand. It was conceived as a forum aimed mainly at promoting regional security and political stability. It was not until 1977 that the economic consideration of a PTA was formally introduced into the agenda. However, this initial PTA was limited in both scope and depth in granting preferences among members. Only 71 commodities and industrial projects were granted 10 to 15% margin of preference, with most

[6]Details about ASEAN and various trade policy institutions mentioned in this section can be found in ASEAN's official website: www.aseansec.org.

important sectors exempted from the concession. In one oft-cited, infamous example, Indonesia lifted barriers to imports of snowploughs. Moreover, the arrangement did not include mechanisms to enforce rulings and to prevent new restrictive measures. Members could delay the liberalization process as they were allowed to decide the rate of annual tariff reduction on their own, or to add strategic sectors to the temporary exclusion list, as had been done in the case of the automotive sector. Between 1985 and 1987, ASEAN members agreed to expand the scope of the PTA and to increase the margin of regional preferences. Nevertheless, by 1989, the fraction of goods that were eligible for preferential treatment was still only on the order of 3%.

By the 1990s, the association had evolved into a de facto economic entity, concurrently with an expanding membership. Brunei became a member in 1984. Vietnam, a former adversary, was admitted in 1995. By 1999, membership has expanded to 10 with Cambodia, Laos, and Myanmar joining as latecomers. On the economic front, a milestone was reached in 1992, with the announcement of establishing AFTA. The objective was to transform the ASEAN economies into a FTA within 15 years. Unlike the earlier PTA arrangement, AFTA called for a thorough liberalization of intra-regional trade by reducing tariff and non-tariff barriers in phases, covering nearly all sectors of goods. AFTA stipulates that tariff rates levied on a wide range of products traded within the region would be reduced to 0-5%. Ultimately, tariffs will be completely abolished by 2010 for ASEAN-6 (the five founding members plus Brunei) and 2015 for the newer members with flexibility on some sensitive products until 2018. As of 2003 the average tariff rate for ASEAN-6 has been down to 2.39% from 12.76% when the tariffs-cutting exercise started in 1993. In addition to liberalization in trade of goods, liberalization in trade of services within ASEAN countries is also being pursued. Besides tariff reduction and elimination of non-tariff measures, AFTA also seeks progress on trade facilitation and has established a dispute settlement mechanism to enhance transparency, equity, and accountability in the AFTA process.

B. Direction of Trade

To learn more about the intra-regional and extra-regional trade of the ASEAN+3 countries, we report trade matrices (for total trade, export, and import) in Tables 2 to 4. Notice that rather than reporting the current trade figures, we present them as of 1999 when the ASEAN+3 idea was proposed. One noteworthy feature in Table 2 is that intra-ASEAN trade flow, as represented by an intra-regional trade share of

about 23%, is relatively low compared with extra-ASEAN trade. This is in sharp contrast to the EU bloc, the world's most integrated trading bloc, which has an intra-regional trade share of nearly 63%. In fact, ASEAN's intra-regional trade share is about the same size as its extra-regional trade share with the "NE-Asia 3" countries of China, Japan, and Korea. On the other hand, East Asia (ASEAN+3 plus Hong Kong and Taiwan) as a bloc registers an intra-regional trade share of 49%. One is tempted to conclude that ASEAN does not in fact function as an economic bloc, despite its formal regional arrangement as an FTA, whereas East Asia taken as a whole does function as a trading and investment bloc even though there is no formal preferential trading arrangement. As pointed out by Anderson and Norheim (1993), Drysdale and Garnaut (1982, 1983), and Frankel (1997), among others, simple trade shares can be misleading because it is a necessary property of the intra-regional share measure that the larger the set of countries one considers, the higher will be the apparent concentration of trade within the set. This is clear if one considers the extreme case of trade shares for the Earth. Obviously one would find a ratio of 100%. One simple way to adjust for the regional size effect, as suggested by Frankel (1997), is to divide a regional trade share by that region's share of world trade. The result is a concentration ratio that can be smaller or larger than one. If the concentration ratio between a pair of countries is larger than one, this means that trade is more concentrated between the pair than with a typical country elsewhere in the world. In Tables 2 to 4 concentration ratios are reported in italics underneath the trade shares. In Table 2, according to the metric of concentration ratios, we see that ASEAN does function significantly as a regional trading bloc, with an intra-regional concentration ratio of 3.97 that is even higher than the EU value of 1.72. This means that trade is indeed geographically concentrated. Whether or not this is due to natural factors such as geographical proximity or to preferential trade policies requires more elaborate statistical data and analyses.[7]

Concerning extra-regional trade, trade shares indicate that the US is the most important extra-regional trading partner with ASEAN, followed by Japan, the NE-Asia 3 together, and the EU. A different ranking, however, emerges from the concentration ratios that control for the size effect. Japan comes up as the most important trading partner with ASEAN, followed by the US and the EU. Moreover, after controlling for the size effect, Japan alone is equally important as

[7]For example, by estimating gravity equations as in Frankel (1997).

Table 2. Trade Shares and Concentration Ratios (1999)

Home \ Trading Partners	ASEAN	China	Japan	Korea	NE-Asia3	ASEAN+3	East Asia	US	EU	Total Export (US$ Million)
ASEAN	22.9	4.0	15.5	4.3	23.8	46.8	55.7	17.8	14.1	678,492
	3.97	*0.40*	*1.28*	*0.54*	*1.28*	*1.92*	*1.96*	*0.83*	*0.33*	
China	7.5		18.3	6.9	25.3	32.8	51.5	17.1	15.4	360,649
	0.75		*1.73*	*1.07*	*1.48*	*1.44*	*1.91*	*0.86*	*0.38*	
Japan	13.6	9.1		5.4	14.5	28.1	37.1	27.1	16.1	729,940
	1.12	*0.86*		*0.63*	*0.75*	*1.13*	*1.28*	*1.24*	*0.37*	
Korea	11.4	8.6	15.2		23.8	35.1	42.4	20.7	12.5	263,387
	1.42	*1.32*	*1.77*		*1.57*	*1.68*	*1.71*	*1.16*	*0.32*	
NE-Asia3	11.6	6.6	7.8	4.7	19.2	30.7	42.0	23.2	15.2	1,353,976
	0.62	*0.38*	*0.41*	*0.31*	*1.49*	*0.98*	*1.18*	*0.82*	*0.31*	
ASEAN+3	15.4	5.7	10.4	4.6	20.7	36.1	46.6	21.4	14.9	2,032,468
	0.63	*0.25*	*0.42*	*0.22*	*0.66*	*1.94*	*1.13*	*0.63*	*0.27*	
East Asia	14.2	10.5	10.8	4.3	25.6	39.8	49.2	20.7	14.5	2,629,935
	0.50	*0.39*	*0.37*	*0.17*	*0.72*	*0.96*	*2.17*	*0.54*	*0.24*	
US	6.9	5.7	11.0	3.1	19.8	26.7	31.3		20.2	1,739,124
	0.32	*0.29*	*0.50*	*0.17*	*0.70*	*0.78*	*0.82*		*0.39*	
EU	2.1	1.6	2.7	0.7	5.0	7.2	8.8	8.5	62.9	4,321,700
	0.05	*0.04*	*0.06*	*0.02*	*0.10*	*0.13*	*0.15*	*0.16*	*1.72*	

Notes: a. Data source: IMF (2000).
b. Trade = Export + Import.
c. Trade share = the percentage share of trade with a partner out of the home country/region's total trade with the rest of the world.
d. Concentration ratios are in italics.
e. NE-Asia3 = China, Japan, and Korea. ASEAN+3 = ASEAN plus NE-Asia3. East Asia = ASEAN+3 plus Hong Kong and Taiwan.

Table 3. Export Shares and Concentration Ratios (1999)

Origin \ Destination	ASEAN	China	Japan	Korea	NE-Asia3	ASEAN+3	East Asia	US	EU	Total Export (US$ Million)
ASEAN	22.2	3.3	12.5	3.3	19.2	41.3	51.2	20.3	16.2	369,822
	3.84	*0.33*	*1.03*	*0.42*	*1.03*	*1.69*	*1.80*	*0.95*	*0.38*	
China	6.3		16.6	4.0	20.6	26.9	47.9	21.5	15.5	194,931
	0.63		*1.57*	*0.62*	*1.21*	*1.18*	*1.78*	*1.09*	*0.38*	
Japan	12.7	5.6		5.5	11.1	23.8	36.0	31.1	17.8	419,207
	1.04	*0.53*		*0.64*	*0.58*	*0.95*	*1.24*	*1.42*	*0.41*	
Korea	12.3	9.5	11.0		20.6	32.9	43.6	20.6	14.1	143,647
	1.54	*1.47*	*1.29*		*1.36*	*1.58*	*1.75*	*1.16*	*0.36*	
NE-Asia3	11.0	4.9	6.4	4.1	15.3	26.3	40.5	26.6	16.5	757,785
	0.59	*0.29*	*0.33*	*0.27*	*1.19*	*0.84*	*1.14*	*0.94*	*0.33*	
ASEAN+3	14.6	4.4	8.4	3.8	16.6	31.2	44.0	24.6	16.4	1,127,607
	0.60	*0.19*	*0.34*	*0.18*	*0.53*	*1.68*	*1.07*	*0.72*	*0.30*	
East Asia	13.2	8.8	8.1	3.4	20.3	33.6	44.8	24.6	16.3	1,439,959
	0.47	*0.33*	*0.28*	*0.14*	*0.57*	*0.81*	*1.98*	*0.65*	*0.28*	
US	5.7	1.9	8.4	3.2	13.4	19.2	23.8		22.0	690,689
	0.27	*0.09*	*0.38*	*0.18*	*0.47*	*0.56*	*0.62*		*0.42*	
EU	1.5	0.9	1.7	0.5	3.2	4.7	6.0	8.8	63.5	2,189,600
	0.04	*0.02*	*0.04*	*0.01*	*0.06*	*0.08*	*0.10*	*0.17*	*1.74*	

Table 4. Import Shares and Concentration Ratios (1999)

Origin / Destination	ASEAN	China	Japan	Korea	NE-Asia3	ASEAN+3	East Asia	US	EU	Total Import (US$ Million)
ASEAN	23.9	4.8	19.1	5.5	29.4	53.3	61.1	14.8	11.7	308,670
	4.13	*0.48*	*1.58*	*0.68*	*1.58*	*2.18*	*2.15*	*0.69*	0.28	
China	9.0		20.4	10.4	30.8	39.8	55.7	11.8	15.4	165,718
	0.90		*1.92*	*1.60*	*1.80*	*1.74*	*2.07*	*0.59*	*0.38*	
Japan	14.9	13.9		5.2	19.1	34.0	38.7	21.7	13.8	310,733
	1.23	*1.31*		*0.60*	*0.99*	*1.36*	*1.33*	*0.99*	*0.32*	
Korea	10.2	7.4	20.2		27.6	37.8	41.0	20.8	10.5	119,740
	1.28	*1.14*	*2.35*		*1.83*	*1.81*	*1.65*	*1.17*	*0.27*	
NE-Asia3	12.34	8.71	9.71	5.60	24.02	36.36	43.88	18.78	13.57	596,191
	0.66	*0.51*	*0.51*	*0.37*	*1.87*	*1.16*	*1.24*	*0.66*	*0.27*	
ASEAN+3	16.3	7.4	12.9	5.6	25.9	42.1	49.8	17.4	12.9	904,861
	0.67	*0.32*	*0.52*	*0.27*	*0.82*	*2.26*	*1.21*	*0.51*	*0.23*	
East Asia	15.3	12.5	14.0	5.5	32.0	47.4	54.6	15.9	12.3	1,189,976
	0.54	*0.47*	*0.48*	*0.22*	*0.90*	*1.15*	*2.41*	*0.42*	*0.21*	
US	7.6	8.2	12.8	3.0	24.1	31.7	36.2		19.0	1,048,435
	0.36	*0.42*	*0.58*	*0.17*	*0.85*	*0.93*	*0.95*		*0.37*	
EU	2.8	2.3	3.7	0.9	6.9	9.7	11.6	8.2	62.2	2,132,100
	0.07	*0.06*	*0.09*	*0.02*	*0.14*	*0.18*	*0.20*	*0.16*	*1.70*	

all three NE-Asia 3 countries together as a trading partner with ASEAN. Note that ASEAN is not, by implication, the most important trading partner with Japan. By setting Japan as the home country, we see that ASEAN is second to the US in Japan's trade concentration. However, the relative importance of ASEAN as a trading partner with Japan should not be underestimated. As measured by the relative magnitude of concentration ratios (1.12/1.24 = 0.9), Japan's trade with ASEAN is only 10% less concentrated than her trade with the US. Compared with the EU, ASEAN is three times more concentrated in Japan's trade (1.12/0.37 = 3), even though the trade share for the EU is higher.

III. Creating an ASEAN+3 FTA?

A. FDI Linkage: ASEAN, Japan and Korea

In this section, we examine the benefits of establishing an FTA among ASEAN, Japan, and Korea by focusing on the role of foreign direct investments. Table 5 reports the distribution of ASEAN's inward FDI by source countries. As can be seen from the last column, during 2000 and 2008, Japan and Korea jointly contribute about 16% of FDI flows into ASEAN, which is only exceeded by the EU-15 share of about 27%. Other than the sheer magnitude of the flows, the vertical nature of FDI linkage between Japan/Korea and ASEAN is noteworthy. Based on a MITI survey of Japanese multinational enterprises in Asia, Belderbos *et al*. (2000) observe that the local procurement of electronic subsidiaries of Japanese MNEs in ASEAN-4 (Indonesia, Malaysia, Philippines and Thailand) is relatively low, compared to their counterparts in Hong Kong and Taiwan. Of the total procurement, only 32% is from the local economies, 47% is from Japan, and 21% from the other countries. The above finding is not special to the MITI data set. From other sources, Capannelli (1997) also finds that Japanese subsidiaries in the Malaysian electronics industry buy an overwhelming share of components from Japanese suppliers. The reliance of Japanese overseas affiliates on components and material imported from Japan is also found by other researchers including Froot (1991), Graham and Krugman (1990) and Kreinin (1992).

Kimura (2000) also provides useful information about the vertical nature of Japanese FDI in Asia. He uses data from MITI's 1994 survey and finds that cases in which the parent firm is in the nonmanufacturing sector and the foreign affiliate is in the manufacturing sector are particularly important in East Asia, with 14% of

Japanese FDI falls into this category. These foreign affiliates of Japanese parent firms export a large proportion of their output back to Japan. On average, foreign affiliates of wholesale (retail) companies sells 16.39% (23.71%) back to Japan, and the figure for all foreign affiliates (all industries) is 12.25%.

ASEAN countries have abundant endowments of natural resources and manpower. And this is reflected in their comparative advantages, which concentrates on primary products and labor-intensive goods. As documented above, many Japanese firms producing in ASEAN countries also export back to Japan, to take advantage of low labor and resources costs. In fact, Kojima (1975) found that some multinational firms invest in the host country's comparative advantage sectors in order to employ low-cost production factors. A large number of Japanese FDIs are of this type. The Japanese investments in the developing countries of Asia are largely in labor-intensive and resource-based industries, in which the host countries have comparative advantages.[8] Indirect evidence to support this claim can be found in Lipsey (2000) and Baek and Okawa (2001). Lipsey (2000) argues that the pattern of exports may reflect the comparative advantages of the host countries and over the period from 1974 to 1995 Japanese firms' affiliates were responsible for about 7% of developing Asian countries' exports. Baek and Okawa (2001) find that over 9% of the total exports of ASEAN 4 (Indonesia, Malaysia, the Philippines and Thailand) was by Japanese subsidiaries in 1997 and their export share was about 25% in electrical sector.

There are two major reasons why the particular nature of FDI linkage between Japan/Korea and ASEAN would make a regional FTA more desirable and beneficial. First, with vertical FDI linking parent firms in Japan/Korea and their foreign affiliates in ASEAN countries, components and intermediate products have to cross borders several times before reaching the final stage. For example, the parent firms in Japan or Korea may focus on product design and final-stage packaging and marketing, while their subsidiaries in ASEAN countries concentrate on the labor- and material-intensive parts of the production stage. Reducing transaction costs in general and lowering trade barriers in particular will facilitate such kind of international production structure. Second, vertical FDI and trade tend to be complementary (Kojima, 1975), which help magnify the trade/FDI creation

[8]In contrast, some multinational firms are in the source country's comparative advantage sector and they make foreign direct investment in the host country's comparative disadvantage sector. Kojima (1975) observed that most American FDIs are of this type. They are concentrated in capital-intensive and high technology industries in which the US has comparative advantages.

Table 5. Share of Inward FDI to ASEAN by Source Country (%)

Source Countries	2000	2003	2005	2008	2000-2008
ASEAN	3.2	11.2	10.8	18.3	13.1
REST OF THE WORLD	96.8	88.8	89.2	81.7	86.9
Asian NIEs	6.2	5.6	2.8	5.6	6.1
Hong Kong	4.8	0.9	1.5	1.0	1.7
Korea	-0.2	2.3	1.3	2.1	2.2
Taiwan	1.6	2.4	0.0	2.4	2.2
China	-0.6	0.8	1.4	2.5	1.5
India	0.3	0.4	1.0	0.7	0.4
Japan	2.1	16.2	17.1	12.7	14.1
EU	56.8	27.8	25.7	20.6	27.3
Other Europe	1.5	7.7	11.0	4.2	5.9
Canada	-1.7	0.4	2.0	1.3	1.1
USA	30.7	6.2	10.1	5.6	10.2
Australia	-1.3	0.7	0.5	1.6	0.8
New Zealand	0.2	0.4	1.2	0.2	0.2
All OTHERS	2.5	22.6	16.4	26.7	19.2
Total Inflows (US $ million)	23,726.8	24,066.7	38,956.0	60,426.0	34,2679.5

Notes: a. Data source: ASEAN (2009) Chapter 6.
b. Negative sign means disinvestment.

effect and reduce the trade/FDI diversion effect of an FTA. With this in mind, we can expect that a regional FTA, which lowers trade barriers in Japan and Korea for products imported from ASEAN, will encourage more final products produced by Japanese and Korean FDI firms in ASEAN to be exported back to Japan and Korea. This in turn will encourage further FDI flows from Japan and Korea to ASEAN. Although this prediction is speculative, there exists in Turkey a real-world example of such kind of FDI/trade creation effect. Prior to Turkey's entry into the EU, some EU automotive producers had made FDI in Turkey to produce cars for the Turkish market. After Turkey's entry, these FDI firms expanded their production and started to export cars back into other EU countries, to take the advantage of zero tariffs otherwise not available without the customs union.

Clearly more evidence is needed to substantiate our arguments. There is empirical evidence showing that FTA leads to more FDI inflows. Globerman and Shapiro (1999) use data over the period 1950-1995 to examine FDI inflow and outflow in Canada as a result of external environment and policy changes. In particular, they find that free trade agreements (the Canada-US FTA and NAFTA) appear to have significantly increased both inward and outward FDI. Binh and

Haughton (2002) estimate the effects of the bilateral trade agreement between the United States and Vietnam, which has significantly lowered trade barriers between the two countries since December 2001, on FDI in Vietnam. They simulate the effect using the results of an econometric model of the determinants of FDI, which is estimated using data from sixteen Asian countries from 1990 to 1999. They show that the bilateral trade agreement should lead to 30 per cent more FDI into Vietnam in the first year, and the level of FDI will eventually double. Baek and Okawa (2001) examine Japanese outward FDI in 6 Asian economies (South Korea, Hong Kong, Singapore, Malaysia, Indonesia and Thailand) for 8 manufacturing sectors from 1983 to 1992. They find that high import tariff rates in the host countries significantly decrease Japanese investment inflow to these countries. This provides indirect evidence that forming an FTA (which lowers tariff barriers) among Asian countries will attract more Japanese FDI.

We provide direct econometric evidence that integration among ASEAN countries has led to increased FDI inflows from Japan and that such FDI flows have been sensitive to changes in trade barriers. We estimate gravity equations with cross-country data, relating Japanese outward FDI to the characteristics of the countries in question.[9] A typical gravity equation looks like

$$\ln(FDI_i) = \beta_0+\beta_1 \ln(GDP_i)+\beta_2 \ln(DIST_i)+\beta_3 \ln(POP_i) +\gamma_1 OPEN_i+\gamma_2 ASEAN_i+\gamma_3 ASEAN_i * OPEN_i+\varepsilon_i \quad (1)$$

and the variables are defined as:

Variable	Definition	Data source
FDI	Japanese accumulated outward FDI (1995 million Yen) in country i from 1989-1998.	Ministry of Finance, Japan.
GDP	Per capita GDP (1995 US dollar) of country i, averaged over 1979-1988.	World Bank (2006)
DIST	Distance between Japan and country i (km)	CIA (2003)
POP	Population of country i, averaged over 1979-1988.	World Bank (2006)
OPEN	Openness of country i, defined as total trade divided by GDP (%), averaged over 1979-1988.	World Bank (2006)
ASEAN	1 if country i is a member of the ASEAN-5 group (Indonesia, Malaysia, Philippines, Singapore, Thailand), 0 otherwise.	

[9]Most applications of the gravity model are studies of trade flows. But it has also been applied to study FDI, for example, Eaton and Tamura (1994), Brenton *et al*. (1999), and Wei (2000a, 2000b) among others.

We use accumulated FDI over the decade 1989-1998 to avoid spurious time variations due to lumpiness of investment and arbitrariness in attributing an investment project to a particular year. GDP, DIST and POP are standard gravity control variables. OPEN is a simple, catch-all, outcome-based measure of the extent of trade liberalization. To avoid simultaneity due to reverse causality and to allow for time delay in investment decision and adjustment, GDP, POP and OPEN are averages of the relevant annual series over 1979-1988, a decade behind the time interval of the accumulated FDI series. The choice of the two intervals, 1979-1988 and 1989-1998, is dictated by data availability and the desire to include as many countries as possible in the regressions. In equation (1) the three gamma parameters are of prime interest. γ_1 measures the impact of a typical country's trade liberalization policy (or reduction in trade barriers) on her FDI received from Japan, whereas $\gamma_1 + \gamma_3$ measures such trade liberalization effect of an ASEAN member. γ_2 captures the ASEAN bloc effect in attracting Japanese FDI, after controlling for measured trade liberalization policy in OPEN. If the interaction term ASEAN*OPEN is omitted, γ_2 will be a catch-all measure of the ASEAN bloc effect, capturing the FDI inducing effects of trade barriers reduction, policy harmonization, cooperation, etc. from forming an FTA.

Table 6a reports the OLS estimation results for equation (1) and its variants. NAFTA and OECD are country bloc dummies analogous to ASEAN, taking the value of 1 if the country in question is a member of the named bloc and 0 otherwise. Judging from the statistical significance of the gravity variables, the correct sign of the estimated coefficients and their stability across different equations, the two regression diagnostics (the Ramsey RESET test and the White heteroskedasticity test), and the respectable R^2 values (for cross-sectional regressions), we can conclude that the gravity model has done a good job in explaining Japanese outward FDI. The trade liberalization variable, OPEN, is significant at the 5% level and its coefficient estimate is about 0.02, which implies that, for a typical country in the world, a one percentage point increase in openness (due to trade barriers reduction, say) will induce a 2% increase in FDI received from Japan. This provides statistical evidence that Japanese FDI flows are indeed responsive to trade barriers reduction or other trade liberalization measures. In fact, Japanese FDI flows are even more sensitive to changes in trade barriers initiated by ASEAN countries. This is indicated by the interaction term ASEAN*OPEN in columns 5 and 6, in which the coefficient estimates are about 0.03 and marginally significant at the conventional 5% level. That is, comparing with a typical country

in the rest of the world, an ASEAN member will receive an additional 3% increase in Japanese FDI inflows per one percentage point increase in openness. Concerning the overall ASEAN bloc effect, the ASEAN coefficient estimates in columns 3 and 4 indicate a very significant (both statistically and economically) impact: other things being equal, being an ASEAN member receives about 2.5 times more Japanese FDI than a non-member. This provides evidence that integration among ASEAN countries has indeed led to economically significant increase in Japanese FDI inflows. Is this result peculiar to ASEAN? What about other FTA? Columns 4 and 6 include NAFTA and OECD dummies but neither is statistically significant,

Table 6a. Japanese Outward FDI Gravity Model

	(1)	(2)	(3)	(4)	(5)
Constant	-6.8999	-8.0841	-7.0086	-7.6846	-6.2562
	(6.0027)	(5.9437)	(5.9286)	(5.9504)	(6.0136)
GDP	1.0388*	1.0612*	0.8064*	1.0573*	0.9046*
Per capita GDP	(0.1609)	(0.1589)	(0.2329)	(0.1594)	(0.1911)
DIST	-1.3712*	-1.1592**	-1.0443**	-1.2103**	-1.1943**
Distance from Japan	(0.4858)	(0.4906)	(0.4944)	(0.4887)	(0.4874)
POP	1.2228*	1.1635*	1.1196*	1.1719*	1.1351*
Population	(0.1670)	(0.1672)	(0.1679)	(0.1675)	(0.1686)
OPEN	0.0172**	0.0161**	0.0202**	0.0158**	0.0160**
Openness	(0.0080)	(0.0079)	(0.0082)	(0.0079)	(0.0079)
ASEAN		2.3770**	2.6654**		
		(1.2085)	(1.2113)		
NAFTA			1.8761		
			(1.3593)		
OECD			0.9693		
			(0.7822)		
ASEAN*OPEN				0.0305***	0.0329***
				(0.0171)	(0.0171)
NAFTA*OPEN					0.0416
					(0.0372)
OECD*OPEN					0.0093
					(0.0080)
R^2	0.59	0.61	0.62	0.60	0.61
RESET test [*p*-value]	[0.07]	[0.14]	[0.31]	[0.12]	[0.16]
White test [*p*-value]	[0.13]	[0.14]	[0.19]	[0.22]	[0.42]
Sample size	99	99	99	99	99

Notes: a. Standard errors in parentheses.
b. *, **, *** denote significant at the 1%, 5% and 10% levels, respectively.
c. A significant Ramsey RESET test indicates the regression equation has been misspecified.
d. A significant White test signals the presence of heteroskedasticity in the regression residuals.

Table 6b. Japanese Outward FDI Gravity Model

	(1)	(2)	(3)	(4)	(5)
Constant	-0.2601	-4.4804	1.4623	-3.6167	-2.2580
	(6.9447)	(7.1021)	(7.9904)	(7.1519)	(7.4571)
GDP	1.1219*	1.2310*	0.9153*	1.1792*	1.1475*
Per capita GDP	(0.2470)	(0.2472)	(0.3326)	(0.2461)	(0.2716)
DIST	-2.0017*	-1.5993*	-1.7188*	-1.6620*	-1.7127*
Distance from Japan	(0.5615)	(0.5841)	(0.5864)	(0.5917)	(0.6033)
POP	1.2022*	1.1631*	0.9840*	1.1795*	1.1361*
Population	(0.1708)	(0.1678)	(0.2007)	(0.1690)	(0.1801)
TAR	-0.0318	-0.0112	0.0024	-0.0243	-0.0241
Tariff rate	(0.0595)	(0.0590)	(0.0594)	(0.0588)	(0.0610)
ASEAN		2.3798**	2.7394**		
		(1.1943)	(1.2118)		
NAFTA			1.5644		
			(1.3215)		
OECD			1.1784		
			(0.9377)		
ASEAN*TAR				0.2313***	0.2371***
				(0.1416)	(0.1436)
NAFTA*TAR					0.2207
					(0.2888)
OECD*TAR					0.0157
					(0.1348)
R^2	0.64	0.67	0.68	0.66	0.66
RESET test [*p*-value]	[0.19]	[0.61]	[0.91]	[0.44]	[0.59]
White test [*p*-value]	[0.14]	[0.13]	[0.16]	[0.24]	[0.51]
Sample size	65	65	65	65	65

Notes: a. Standard errors in parentheses.
b. *, **, *** denote significant at the 1%, 5% and 10% levels, respectively.
c. A significant Ramsey RESET test indicates the regression equation has been misspecified.
d. A significant White test signals the presence of heteroskedasticity in the regression residuals.

although the positive sign of the coefficient estimates indicates the dominance of FDI creation effect. Even if we ignore the issue of statistical significance, notice that both the NAFTA and OECD coefficient estimates in column 4 are smaller than that of ASEAN, which implies that ASEAN countries are much more attractive hosts for Japanese FDI than NAFTA and OECD countries.[10]

[10]We have tried other blocs including EU, MERCOSUR, the Australia-New Zealand CER, and the Andean Pact. The conclusions are the same.

We also try another measure of trade barriers, the tariff rate TAR, defined as import duties divided by total imports using data from World Bank (2006). The sample size drops to 65 and the estimation results are shown in Table 6b. The qualitative conclusions are the same as we draw from Table 6a, except that TAR is not statistically significant. One possible explanation is that TAR is a too narrow measure of trade barriers, and that Japanese FDI may respond more to non-tariff barriers which are captured by OPEN but not by TAR. Nevertheless, our conclusion about the large ASEAN bloc effect remains intact.

We have also taken seriously the econometric issue of sample selectivity as in Eaton and Tamura (1994) and Wei (2000a, 2000b). In the gravity equations in which OPEN is used, our data set actually provides 147 countries with complete data for the right hand side variables, but only 99 of them register positive FDI figures for which we use to estimate the regression equations. If the gravity equations are meant to apply to *all* 147 countries (including those which have not yet received any Japanese FDI), in principle the correct model should be a censored regression model, and ignoring the non-positive FDI observations may lead to biased parameter estimates. The extent of sample selectivity bias depends on the degree of correlation between the participation equation (a probit model explaining whether FDI is zero or not) and the level equation (like equation (1)). The Heckman two-step procedure allows consistent estimates of the censored regression model and also provides a test for the presence of sample selectivity. We have applied the Heckman two-step procedure and found that the results are almost the same as the OLS results reported in Table 6a. The specification test for sample selectivity is also not statistically significant. Thus, sample selectivity does not seem to be a problem for our analysis.[11]

B. Similarities and Differences: ASEAN and China

If China stays out of the ASEAN+ trading bloc, it will face two changes in the region. First, ASEAN is deepening its integration (completing AFTA by 2002 and further deepening trade liberalization and enlarging the product coverage of AFTA). Second, there will be more economic cooperation among Japan, Korea and ASEAN. Either one of these changes will put China, as an outsider, in a disadvantageous position. Basically, China will suffer from both trade diversion

[11] See Amemiya (1985, Chapter 10) for details about the Heckman two-step procedure. Leung and Yu (1996) discuss many important practical issues in applying the procedure. Our Heckman two-step estimation results are available upon request.

and FDI diversion. This changing regional environment should strengthen China's incentive to join the regional bloc with ASEAN, Japan and Korea. A similar argument is also provided by Baldwin *et al.* (1995) to explain that deeper European integration caused wider European integration. That is, deeper European integration makes non-EU members more willing to join the EU.

Indeed, China had proposed the creation of a free trade zone with the 10 members of ASEAN at the beginning of this century. This proposal was also viewed as a move aimed at easing the region's concerns over a negative backlash when China joins WTO. During his visit to Singapore in November 2000, the then Chinese Premier Zhu Rongji told leaders of the ASEAN countries that strengthening trade and investment links should be a priority for both sides. More specifically, he stated that it might be advisable in the long run for China and ASEAN countries to explore the establishment of a free trade relationship. Both sides became more positive after Premier Zhu's second visit to Southeast Asia in November 2001. After many rounds of negotiations, the two sides have eventually reached an agreement to establish a free trade area.

Even though the agreement has been signed, there are concerns over the impact of the giant country's entry into the WTO. They are also worried that investment money would be diverted from their region to China. On the contrary, China believes that its membership to the WTO would actually bring about a "win-win situation", for China and ASEAN alike. First, by accession to the WTO, China's market will become bigger, which in turn will create more business opportunities for ASEAN countries. Second, China and ASEAN countries vary in economic structure and export mix.[12] In what follows, we will first analyze the impact of China's WTO accession and then discuss the implications of an FTA between ASEAN and China.

As a matter of fact, China's WTO accession has caused a lot of concern in both developed and developing countries. Typically, people in ASEAN countries worry that since their products are competing with Chinese products in both the export markets and their domestic markets, they will lose their competitiveness in the world markets. On one hand, ASEAN countries have to give tariff concessions to China, based on MFN, in their domestic market, and the increased imports from

[12]If ASEAN countries worry about China's entry to WTO, should they worry more or less about formation of an FTA including ASEAN and China? We will not provide a direct answer to this question below. But we will argue that ASEAN would benefit from China's WTO accession and even more from an ASEAN+3 FTA.

China will reduce import competing industries' profits and employment. On the other hand, developed countries will also give tariff concessions to China in their markets. This will reduce ASEAN exporters' competitive advantage in those markets when competing with the Chinese exporters.

While the above argument is true to some extent, it ignores some other important aspects of the situation. First, is it truly the case that China and ASEAN countries are competing head to head in all markets? Generally speaking, these countries have overlaps in their product lines and therefore compete in every market in these products. Table 7, based on Lui and Qiu (1999), shows the areas of comparative advantage of the six leading ASEAN countries, China, Korea, and Japan. For example, China has comparative advantage in labor-intensive products (SITC 8: miscellaneous manufactured goods). Members of ASEAN that also have comparative advantage in this sector are the Philippines and Thailand. China does not have comparative advantage in some resource-based products, such as those classified under SITC 4 (animal and vegetable oils, fats and waxes), but most other ASEAN countries have comparative advantage in these products.

Second, upon entering WTO, China must lower its protection levels in all products. For those sectors in which both China and ASEAN have comparative advantage, producers who export from ASEAN to China will benefit from China's lowering of the protections. It is not clear that these producers, even if they are competing with Chinese counterparts, need to be worse off even though they face

Table 7. Revealed Comparative Advantage (1970 - 1994)

SITC Code:	0	1	2	3	4	5	6	7	8	9	71	74	75	76	77	78	79
China	•		•	•			•		•					•			
Japan								•			•	•	•	•	•	•	
Korea							•	•	•					•	•		•
Brunei				•													
Indonesia	•		•	•	•		•										
Malaysia			•	•	•									•	•		
Philippines	•		•		•				•	•					•		
Singapore				•	•			•					•	•	•		
Thailand	•		•						•				•	•	•		

Note: A dot (•) in a cell indicates that an economy has comparative advantage in the corresponding sector and the economy does not have comparative advantages in the sectors which have no dots.
Source: Lui and Qiu (1999).

tougher competition in their domestic markets and in the developed countries' markets.

While it is not too difficult to predict which sector of which country will benefit or lose from China's accession to the WTO, it is difficult to estimate the degrees of benefits or losses for a given sector. It is even more difficult to analyze whether, for any country, the benefits are greater than the losses. There have been some attempts to analyze these issues, however. As Lejour (2001) summarizes, most studies that make use of a computable general equilibrium model conclude that both China and its major trading partners, including Japan and Southeast Asian countries, will benefit from China's entry into the WTO. Both Bach *et al*. (1997) and Wang (1997) predict that China (including Hong Kong) will have a net welfare gain of about US$30 annually. Ianchovichina and Martin (2001) show that China and its major trading partners gain from China's WTO accession, while some competing countries suffer small losses in the third market from a static point of view. However, since China will realize higher economic growth after its trade liberalization, Arndt *et al*. (1997) conclude that ASEAN will in turn benefit greatly from China's economic growth. Using the GTAP model, Lejour (2001) finds that ASEAN countries benefit mainly from China's lower trade barriers in sectors such as textiles, apparel, leather products, and lumber and wood.

We now examine the implication of the above analysis on a China and ASEAN FTA. For that reason, let us exclude Korea and Japan from the ASEAN+3 FTA for a moment and return to them later. There are two differences between China's accession to the WTO and China's free trade with ASEAN, in regard to the impacts on the ASEAN economies. First, both China and ASEAN will further deepen their trade liberalization vis-à-vis each other in the case of an FTA. Although trade liberalization definitely hurts some sectors while it benefits some others, it is commonly recognized that mutual trade liberalization must benefit each economy as a whole. This is also a proposition in international trade theory, under both perfect competition and imperfect competition.

Second, introducing FTA would not affect much the competition between China and ASEAN countries in any third market. The pessimists from ASEAN regarding China's accession to the WTO argue that the increased competition in third markets will reduce their competitiveness and lower their profits. As pointed out above, even taking this possible negative effect into account, most studies still find that both China and ASEAN would benefit from mutual penetration of each other's

markets due to lower protections.[13] Hence, compared to China's accession to WTO, *an FTA helps both regions further benefit from deeper trade liberalization in both markets, without generating negative effects in third markets.* As a result, both China and ASEAN will surely benefit from the establishment of an FTA.

C. Diversity of ASEAN+3 Economies

Having analyzed FTA between ASEAN and the other three individual countries, we now turn to considering the 13 countries of the ASEAN+3 together.

From Table 7, we see that in every sector except products in SITC 1 (beverages and tobacco), at least one of ASEAN+3 countries has comparative advantage in the world market. Specifically, Japan, Korea and Singapore have comparative advantage in capital and technology intensive goods (those in SITC 7). China and other ASEAN countries have comparative advantage in either natural resource-intensive products (SITC 0 to 5), natural resource-intensive manufactured goods (SITC 6), or labor-intensive manufactured goods (SITC 8). To see more along the line of diversity, rather than competition, Table 8 presents some statistics on trade between ASEAN and China in 2008 for top 10 commodities. ASEAN exported US$ 12,284 million worth HS 27 products (mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax) to China and imported only US$ 3,375 million worth of them from China. It imported US$7,820 million of HS 72 products (iron and steel) from China and exported less than US$900 million worth of them to China. Table 9 reports the statistics between ASEAN and Japan. ASEAN exported US$ 34,845 million worth of HS 27 products to Japan, but only imported US$ 3,981 million worth of them from Japan. It imported US$ 10,990 million worth of HS 87 products (vehicles; parts and accessories) from Japan, but exported only US$ 2,033 million worth of them to Japan. Finally, trade statistics between ASEAN and Korea can be found in Table 10. There is a large asymmetry in the trade of the first two largest commodities: ASEAN exported US$ 11,699 million worth of HS 27 products to Korea and imported US$ 6,905 million worth of them from Korea, while it imported US$ 14,555 million worth of HS 85 products (electric machinery, equipment and parts; sound equipment; television

[13] In their study on the trade and welfare effects of China's WTO accession, Ianchovichina and Martin (2001) predict a small welfare reduction for some ASEAN countries, mainly because of those countries' losses in third markets. It is therefore clear that if their analysis is applied to ASEAN+3 FTA, because of the absence of the third market effect, the result will be that all ASEAN countries will have welfare gains.

Table 8. Commodity Trade between ASEAN and China in 2008

Exports					Imports				
HS	Commodities	To China (US$ mn)	Total ASEAN Exports(US$ mn)	Share (%)	HS	Commodities	From China (US$ mn)	Total ASEAN Exports (US$ mn)	Share (%)
85	Electric machinery, equipment and parts; sound equipment; television equipment	22,214	175,494	12.7	85	Electric machinery, equipment and parts; sound equipment; television equipment	30,462	165,993	18,4
84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	13,929	121,641	11.5	84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	23,663	118,485	20.0
27	Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax	12,284	150,380	8.2	72	Iron and steel	7,820	38,809	20.2
40	Rubber and articles thereof	6,174	28,390	21.7	73	Articles of iron and steel	3,959	18,256	21.7
							3,375	146,557	2.3
15	Animal or vegetable fats and oils and their clevage products; prepared edible fats; animal or vegetable wax	5,803	33,711	17.2	27	Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax	2,241	22,870	9.8
						Plastics and articles thereof	2,090	17,557	11.9
39	Plastics and articles thereof	3,758	24,324	15.4	39		2,046	17,571	11.6
						Organic chemicals			
29	Organic chemicals	2,731	20,101	13.6	29				
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments/apparatus; parts & accessories	1,074	15,093	7.1	90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments/apparatus; parts & accessories	1,960	6,511	30.1
26	Ores, slag and ash	1,066	5,334	20.0	28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	1877	8,369	22.4
74	Copper and articles thereof	918	7,708	11.9	31	Fertilizers			
	Ten Major	69,951	582,176	12.0		Ten Major	79,492	560,978	14.2
	Others	15,606	296,966	5.3		Others	27,484	270,251	10.2
	Total	85,557	879,143	9.7		Total	106,977	831,229	12.9

Source: ASEAN (2009) Chapter 5, Table V.52.

Table 9. Commodity Trade between ASEAN and Japan in 2008

Exports					Imports				
HS	Commodities	To Japan (US$ mn)	Total ASEAN Exports (US$ mn)	Share (%)	HS	Commodities	From Japan (US$ mn)	Total ASEAN Exports (US$ mn)	Share (%)
27	Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax	34,845	150,380	23.2	85	Electric machinery, equipment and parts; sound equipment; television equipment	24,412	165,993	14.7
85	Electric machinery, equipment and parts; sound equipment; television equipment	19,274	175,494	11.0	84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	22,754	118,485	19.2
84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	9,101	121,641	7.5	87	Vehicles (not railway, tramway, rolling stock); parts and accessories	10,990	26,770	41.1
44	Wood and articles of wood; wood charcoals	3,111	10,927	28.5	72	Iron and steel	9,977	38,809	25.7
40	Rubber and articles thereof	3,059	28,390	10.8	39	Plastics and articles thereof	4,457	22,870	19.5
39	Plastics and articles thereof	2,625	24,324	10.8	73	Articles of iron and steel	4,433	18,256	24.3
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments/ apparatus; parts & accessories	2,436	15,093	16.1	27	Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax	3,981	146,557	2.7
03	Fish, crustaceans & aquatic invertebrates	2,069	8,568	24.1	90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments/ apparatus; parts & accessories	3,512	17,571	20.0
87	Vehicles (not railway, tramway, rolling stock); parts and accessories	2,033	26,378	7.7	71	Natural or cultured pearls, precious or semi-precious stone, precious metals and metal clad therewith and articles thereof; imitation jewelry; coin	2,001	17,379	11.5
26	Ores, slag and ash	2,025	5,334	30.0					
					74	Copper and articles thereof	1,934	9,406	20.6
	Ten Major	80,578	566,529	14.2		Ten Major	88,452	582,097	15.2
	Others	24,294	312,614	7.8		Others	18,664	249,133	7.5
	Total	104,872	879,143	11.9		Total	107,116	831,229	12.9

Source: ASEAN (2009) Chapter 5, Table V.55.

Table 10. Commodity Trade between ASEAN and Korea in 2008

Exports					Imports				
HS	Commodities	To Korea (US$ mn)	Total ASEAN Exports (US$ mn)	Share (%)	HS	Commodities	From Korea (US$ mn)	Total ASEAN Exports (US$ mn)	Share (%)
27	Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax	11,699	150,380	7.8	85	Electric machinery, equipment and parts; sound equipment; television equipment	14,555	165,993	8.8
85	Electric machinery, equipment and parts; sound equipment; television equipment	9,054	175,494	5.2	27	Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax	6905	146,557	4.7
84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	2,524	121,641	2.1	84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	3065	118,485	2.6
74	Copper and articles thereof	1,062	7,708	13.8	72	Iron and steel	3,030	38,809	7.8
40	Rubber and articles thereof	957	28,390	3.4	89	Ships, boats and floating structures	1,707	7,585	22.5
							1,598	22,870	7.0
29	Organic chemicals	698	20,101	3.5	39	Plastics and articles thereof	1,208	18,256	6.6
							1,055	17,557	6.0
26	Ores, slag and ash	633	5,334	11.9	73	Articles of iron or steel	705	26,770	2.6
38	Miscellaneous chemical products	605	7,821	7.7	29	Organic chemicals	636	9,406	6.8
44	Wood and articles of wood; wood charcoals	593	10,927	5.4	87	Vehicles (not railway, tramway, rolling stock); parts and accessories			
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments/apparatus; parts & accessories	460	15,093	3.0	74	Copper and articles thereof			
	Ten Major	28,286	542,888	5.2		Ten Major	34,465	572,287	6.0
	Others	6,652	336,254	2.0		Others	6,319	258,942	2.4
	Total	34,938	879,143	4.0		Total	40,784	831,229	4.9

Source: ASEAN (2009) Chapter 5, Table V.58.

equipment) from Korea and exported US$ 9,054 million worth to Korea.

Although having a rich diversity in members' economies would not allow an FTA to escape the negative effect of trade diversion, *the magnitudes of trade diversion would be much lower because of diversity,* provided that the potential member are efficient producers of a wide range of products. This can be easily seen from the following example. One possible trade diversion is a switch in the demand for American cars to a demand for Japanese cars. But if this occurs, the cost is not too large since Japan already produces cars very efficiently. That is, the trade diversion effect is minimal. However, if Japan could not produce automobiles and the trade diversion leads led to an import of Chinese automobiles, we would expect to see very large effects of trade diversions.

It is important to note that diversity is not a sufficient condition for FTA to escape negative trade diversion and efficiency is a necessary condition. If FTA results in trade diversion from efficient American producers to very inefficient Chinese producers, welfare loss will be large. However, this is unlikely to be the case in reality. On the one hand, if Chinese producers are extremely inefficient, the tariff advantages given to them over the American counterparts from FTA will not be sufficient to divert ASEAN's import from the US to China. On the other hand, it is evident that economic reform in China since 1979 has improved the economy's efficiency tremendously. Decentralization and market competition has led state owned enterprises to enhance its competitiveness in order to survive in a market economy. Furthermore, efficient private sectors and foreign-invested enterprises have played a more and more important role in the economy. For example, in 2002 foreign-invested enterprises contributed to more than 50 per cent of China's exports. Although some inefficient producers (state owned enterprises) helped by the governments may still remain in the market for some time, their role is diminishing and will be less important by the time ASEAN+3 has been formed.

The above analysis is based on the trade-creation and trade-diversion aspects of FTA. Given the rich differences among the ASEAN+3 countries, one can also examine additional benefits from FTA in ASEAN+3 by going through Whalley's (1998) other five reasons or objectives for individual countries to join an FTA. We omit this relatively straightforward analysis for the sake of space.

IV. Concluding Remarks

We support the ASEAN+3 FTA proposal based on the analysis of the FDI

linkage and economic diversity of the region. Further analysis can be undertaken in the following directions.

First, the paper by Spilimbergo and Stein (1998) includes some interesting results on the question, "should Chile join NAFTA or Mercosur?". There are trade-offs. Chile is a labor-abundant country, similar to other Mercosur countries in economic and endowment structures and also close to Mercosur geographically. Holding other things constant, there are more benefits for Chile to join Mercosur because transportation costs are lower and Mercosur's tariffs are higher than NAFTA's. On the other hand, Chile can benefit from joining NAFTA since it has the comparative advantage over Canada and US in the labor endowment.

If we apply the above logic to the extension of AFTA to China, Korea and Japan, we will have the following results. The benefits from including China in the FTA come from the reasons that China is a large and rapidly growing economy with relatively high tariffs. Japan and Korea engage in less competition with ASEAN members in the world market because ASEAN countries maintain their own comparative advantages, not overlapping much with those of Japan and Korea. This is part of the sources of benefits for extending the AFTA to Japan and Korea.

Second, in the literature about the Krugman versus Krugman debate,[14] transport costs play the key role in determining what is a "natural" bloc. In this sense, ASEAN+3 is a natural bloc. However, we should not take transportation costs too literally. Countries form a natural trading bloc since barriers other than trade policy barriers are low between them. Transportation cost is one such barrier. Cultural difference is another. Regulations, customs, exchange rate systems, product standards, and other institutions also contribute to trade barriers. Hence, extending free trade from ASEAN to China, Japan and Korea would become more natural if these barriers were reduced simultaneously. While physical distance between ASEAN and any one of these three cannot be shortened, communication technology progress, government policy coordination, etc, can help to reduce these "transportation costs" and make this bloc more natural.

ASEAN has been working along these lines. For example, ASEAN is promoting uniform customs classifications and procedures and establishing common forms for manifest, travel documents, and the electronic transmission of business documents.

[14]See Frankel (1997) for a summary.

Third, Whalley (1998) has considered countries' objectives to form trading blocs. However, it seems that what we are considering now is an existing trading bloc's incentives or objectives to expand their membership. Whalley argues that a small country has the incentive to form an FTA with a large one. ASEAN countries together are still small in economic sense and they are not diversified enough. Thus, by treating them as one "country", there should be incentives for them to have FTAs with other big countries such as Japan and China.

Fourth, at the time ASEAN+3 was proposed, some ASEAN members felt that such a goal was premature. There is also a worry about the diversity of these countries. Unlike NAFTA and the EU, there is an extremely wide divergence between the economic infrastructures and GDPs of Japan, South Korea and China. Although a number of current EU members, including Portugal and Greece, still lag behind such key states as Germany, France and Britain, and Mexico is far behind the US and Canada, the disparities between China, Japan and Korea are much more pronounced. Per capita income in Japan was about US$34,285 in 2007, compared with about US$19,998 in Korea and US$2,483 in China (see Table 1). Vast regions of inland China are still underdeveloped, with local inhabitants, on average, earning only one-third of the salary of those in the booming coastal zones. We do not have a good answer about if more divergent countries benefit more from FTA.

Fifth, none of the three countries, China, Japan and Korea, have FTAs with any other country in the world. How does this fact affect the incentives and benefits of participating in an FTA on the part of the three countries, and of admitting them as new members on the part of the ASEAN countries?

Finally, we should consider the relationship between regional trade liberalization like ASEAN+3 and multilateral trade liberalization like the WTO. Although a country may continue to benefit from multilateral trade liberalization within the WTO, countries of the ASEAN+3 may benefit more and realize the benefits more quickly from regional trade liberalization. There are three basic reasons for this. First, because there are too many members in the WTO, the pace of global trade liberalization is inevitably slow. Second, some very large countries have some definite power in determining the ultimate pace of the multilateral trade liberalization within the WTO. Countries of the ASEAN+3 cannot afford to wait that long. Third, negotiations within the WTO have been increasingly shifting their agendas towards issues other than tariffs, such as environmental protection, intellectual property rights, labor standards and competition policies. These are

important issues related to international trade, but there is still plenty of room for ASEAN+3 to benefit from trade liberalization per se.

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