Chapter Ⅰ

"Potential" APEC Sub-Regions ---Current Status and Future---

Satoru D. Okuda
APEC Study Center
Institute of Developing Economies

1. Introduction

Long lasting arguments have debated the effects of regional trade agreements in the field of international trade. The questions are as follows: "Do regional trade agreements really enhance the trade among the member economies?" and more importantly, "Do they really not harm non-member economies?"

The trade enhancing effect of regional trade agreements is often referred to as "trade creation effect," and the possible exclusion of non-members associated with the launch of trade agreements is often referred to as "trade diversion effect." In terms of economic size, history and degree of harmonization, EU (European Union) is a famous example of a regional trade agreement. So far, most research has shown favorable results for the EU's economic integration: the research generally found a considerable trade creation effect and also found a minimal trade diversion effect. The analysis of trade creation and diversion effects can also be applied to sub-regions in a certain economic integration entity. Okuda (1998) showed that the existing APEC SRTAs (sub-regional trade agreements), such as AFTA and NAFTA, generally stimulate trade with non-member countries as well as intra-regional trade. This was a striking finding because the result showed the opposite of the public's concern about the trade agreements.

Here, one question is raised: What about the "potential" APEC SRTAs? In the APEC region, several movements toward forming new SRTAs are now under way.

These include the AFTA-CER linkage, in which AFTA (ASEAN Free Trade Area) and ANZCERTA (Australia-New Zealand Closer Economic Relationship Treaty Agreement) hold annual meetings geared toward further facilitation of trade and investment between them. This study aims to measure the trade creation effects of those potential SRTAs and their future. The rest of the study is organized as follows: section 2 overviews the existing and potential APEC SRTAs; section 3 measures the trade creation effects of existing and potential APEC SRTAs---the estimation is performed for various sample periods, so we can view the historical changes in those effects; section 4 tries to foresee the future of the potential APEC SRTAs; and the last section provides a conclusion.

2. Existing APEC SRTAs and the Followers---"Potential" SRTAs

2.1. Existing APEC SRTAs

The Third Report of APEC EPG (Eminent Persons Group), submitted at the 1995 Leaders' meeting, served as a formal authorization for sub-regional trade agreements (SRTAs) within the APEC region. The Report clarified that SRTAs are beneficial as long as they do not harm non-member countries of each SRTA.

So far, four SRTAs in APEC[1]. **Table 1** summarizes the economic size and trade volume, and **Table 2** shows the members of the existing APEC SRTAs. The most harmonized and long-lasting one is ANZCERTA, which was established in 1963. In terms of integrated economic size, NAFTA (North American Free Trade Area), effective since 1994, is the largest one. It represents 54% of APEC's total GDP. AFTA started in 1992, and it embodies the economic aspect of ASEAN, which is unique because it is an economic integration formed by mid-sized economies. FTAA is a SRTA comprised of the Americas, and the membership does not necessarily overlap with APEC. As of March 1999, 14 out of 21 APEC members are also members of SRTAs. The combined economic size of APEC SRTA members in 1997 represented

[1] For a detailed description of established APEC SRTAs, see Section 2-1 of Okuda (1998).

Table 1. GDP and Exports in APEC---1997

	GDP			Exports		To APEC		To Own SRTA	
		Share in APEC (%)	World Share (%)	Total	Share in APEC (%)		Share (%)		Share (%)
Japan	4193	24.8	14.0	421	16.2	314	74.6		
China	918	5.4	3.1	183	7.0	141	77.0		
NIEs3	897	5.3	3.0	446	17.1	332	74.3	53	11.8
AFTA7*	678	4.0	2.3	355	13.6	271	76.3	84	23.6
ANZCERTA*	459	2.7	1.5	77	3.0	57	74.4	7	9.5
NAFTA*	9139	54.1	30.5	1011	38.8	781	77.3	547	54.1
(USA)	8111	48.0	27.1	688	26.4	435	63.3		
APEC nie	596	3.5	2.0	111	4.3	30	27.0		
APEC21	16880	100.0	56.4	2605	100.0	1926	73.9		
EU15	8031		26.8	2114		400	18.9	1292	61.1
World	29926		100.0	5635		2572	45.6		

Remarks: GDP and export figures are in billions of US dollars.
An asterisk (*) indicates an existing APEC SRTA.
"NIEs3" does not include Singapore and is not an APEC SRTA in any manner.
"APEC nie" consists of Chile, Papua New Guinea, Peru, and Russia

Sources: GDP IMF, "International Financial Statistics";
Asian Development Bank, "Key Indicators of Developing Asian and Pacific Countries"
Exports IMF, "Direction of Trade Statistics";
Department of Statistics, Ministry of Finance, Republic of China, "Monthly Statistics of Exports and Imports"

61% of the APEC total[2].

2.2. "Potential" APEC SRTAs

Among the various potential SRTAs not yet firmly formalized, the following four major linkages exist: AFTA-CER, EAEC, FTAA-CER, and Japan-Korea linkages. **Table 4** summarizes the economic size and the trade volume, and **Table 3** shows the possible members of those potential APEC SRTAs. Among the four potential SRTAs, the former three involve expanding existing SRTAs, and the last one involves creating a new SRTA out of non-SRTA members. AFTA-CER is the most advanced and formalized linkage among the potential APEC SRTAs because the two participants, AFTA and ANZCERTA, have held annual meetings since 1995 to enhance and

[2] The share is based on the total GDP of AFTA, ANZCERTA, and NAFTA.

Table 2. Existing APEC SRTAs (As of March 1999)

Abbreviation	Official Name	Establishment	Participants from APEC	
AFTA	ASEAN Free Trade Area	1992	7 members	Singapore, Malaysia, Thailand, Philippines, Indonesia, Brunei, Vietnam
ANZCERTA (CER)	Australia-New Zealand Closer Economic Relationship Treaty Agreement	1963	2 members	Australia, New Zealand
NAFTA	North American Free Trade Agreement	1994	3 members	United States, Canada, Mexico
FTAA*	Free Trade Area of the Americas	1994	5 members	United States, Canada, Mexico, Chile, Peru
(Non-SRTA)			7 members	Japan, Korea, Taiwan, China, Hong Kong, Papua New Guinea, Russia

*In the 1994 Summit of Americas held in Miami leaders from 34 countries in North and South America agreed to complete negotiations for the agreement by 2005.

facilitate trade and investment between them[3]. Since 1989, the Malaysian Prime Minister Dr. Mahatir has advocated EAEC (East Asian Economic Caucus), since 1989. The bottom line of EAEC would be to expand AFTA by including major Asian economies, specifically Japan, into an ally that would compete with the United States in the Asia-Pacific region. Every year ASEAN urges for accomplishing the EAEC. However, that urging has been gradually diminishing because of persistent protest by the United States and ambiguous mission of EAEC itself, which is "something in between APEC and AFTA." Discussions about FTAA-CER and Japan-Korea linkages started only recently. Australia and New Zealand started a feasibility study about expanding the existing ANZCERTA to include South American countries and the United States[4]. Through this new linkage, Australia and New Zealand hope to promote primary products trade. As for the Japan-Korea relation, the bilateral dialogue between them has continued since normalizing the diplomatic relationship in 1965. However, Korea repeatedly complained about its chronic trade deficit with Japan, and Korea resorted to de facto import restriction on certain Japanese consumer goods (Import Diversification Act). The Kim Daejung administration, established in 1998, tried to break through

[3] See Chapter Ⅱ, written by Jiro Okamoto, for more details about AFTA-CER linkage.

Table 3. "Potential" APEC SRTAs (as of March 1999)

Name	Possible Participants from APEC	
AFTA-CER	9 members	AFTA(Singapore, Malaysia, Thailand, Philippines, Indonesia, Brunei, Vietnam); ANZCERTA(Australia, New Zealand)
EAEC	10 members	AFTA(Singapore, Malaysia, Thailand, Philippines, Indonesia, Brunei, Vietnam); Japan, Korea, China
FTAA-CER	7 members	FTAA(United States, Canada, Mexico, Chile, Peru); ANZCERTA(Australia, New Zealand)
Japan-Korea	2 members	Japan, Korea

Table 4. GDP and Exports of "Potential SRTAs" in APEC---1997

	GDP			Exports		To APEC		To Own SRTA	
		Share in APEC (%)	World Share (%)	Total	Share in APEC (%)		Share (%)		Share (%)
AFTA-CER	1137	6.7	3.8	432	16.6	328	76.0	110	25.6
EAEC	6231	36.9	20.8	1095	42.0	821	75.0	374	34.1
FTAA-CER	9740	57.7	32.5	1112	42.7	801	72.1	540	48.6
Japan-Korea	4635	27.5	15.5	557	21.4	409	73.5	41	7.3
APEC21	16880	100.0	56.4	2605	100.0	1654	63.5		
World	29926		100.0	5635		2572	45.6		

Remarks: GDP and export figures are in billions of US dollars.
See Table 3 for members of each potential SRTA.
Non-APEC members of each potential SRTA are not subject to calculation.
Sources: Same as Table 1.

stagnant relations with Japan in order to help the Korean economy recover. Recent dialogue between Japan and Korea concentrates mainly on trade liberalization and investment agreement. This bilateral strengthening of the relation seems to contradict with the "open-regionalism" principle of APEC. But the two countries will not be content with just improving bilateral relations. They hope to expand the bilateral relationship into a bigger SRTA[5].

[4] See *Nihon Keizai Shimbun*, February 22, 1999 (morning edition).

[5] On November 28, 1998, Japan and Korea held a Japan-Korea Ministerial Meeting in Kagoshima, Japan. In the meeting, Japanese International Trade and Industry Minister Kaoru Yosano met South Korea's Finance and Economy Minister Lee Kyu-sung and Industry and Energy Minister Pak Tae Yong. They agreed that the new investment agreement would cause somewhat of a stagnant situation for OECD and MAI (Multilateral Agreement on Investment) negotiations. See *Asahi Shimbun*, November 29, 1998 (morning edition). Also, Japanese MITI sees that regional trade agreements between Japan and Korea "will amplify and intensify (MITI's) multilateral-rule." However, the ministry maintains its position on the multilateral-rule. See *Asahi Shimbun*, December 13, 1998 (morning edition).

3. Trade Creation Effect of SRTAs---Comparison between Existing and Potential APEC SRTAs

3.1. Adopted Model

In the previous section, we looked at an outline of existing and potential APEC SRTAs. In the APEC region, as we have observed, several potential SRTAs exist, and they could become formal SRTAs. In order to discuss the feasibility of developing formal SRTAs, we need to look at their intra-regional trade. For that purpose, the author tries to measure the trade creation effect of the potential SRTAs. Comparing the trade creation effect of potential SRTAs with the existing APEC SRTAs will be especially useful. In order to measure the trade creation effect of each potential APEC SRTA, the author adopted the gravity model. In that model, the income levels of exporting and importing countries, the distance between them, as well as other factors combine to determine a bilateral trade flow. Since the main emphasis is placed on analyzing the regional effect on international trade, the model should include several regional dummies. One example fulfilling such a requirement is the model adopted in Okuda (1998). Considering that model, the author defines the model used in this study as follows:

$$T_{ij} = f\,[CNST, GDPX, GDPM, DIST, HK, SPORE, CHN, MEX, AFTA, NAFTA, CER, XAFTA, XNAFTA, XCER, AFTACER, EAEC, FTAACER, JAPKOR]$$

For a detailed explanation of the variables, see **Table 5**. GDPX, GDPM, and DIST are GDP of the exporting and the importing countries, and the distance between the two countries, respectively. These three variables constitute the core part of the gravity model. HK and SPORE are interport dummies to control the upward irregularity due to these two countries' interport characteristics. CHN and MEX are country dummies for China and Mexico (exports only) to check the country specific anomaly. The China dummy can be interpreted as a dummy for socialistic regimes, which usually depress international trade through intrinsic closed macroeconomic policy. AFTA, NAFTA, and CER are the dummies for the existing APEC SRTAs, which

Table 5. Description of the Explanatory Variables

Tij	Exports from country i to j
CNST	Constant
GDPX	GDP of exporting country i
GDPM	GDP of importing country j
DIST	Distance between exporting and importing countries
HK	Hong Kong interport dummy: 1 if the flow involves Hong Kong, 0 otherwise
SPORE	Singapore interport dummy: 1 if the flow involves Singapore, 0 otherwise
CHN	China dummy: 1 if the flow involves China, 0 otherwise
MEX	Mexican export dummy: 1 if Mexican exports. 0 otherwise
AFTA	Intra-AFTA dummy: 1 if the flow is intra-AFTA, 0 otherwise
NAFTA	Intra-NAFTA dummy: 1 if the flow is intra-NAFTA, 0 otherwise
CER	Intra-ANZCERTA dummy: 1 if the flow is between Australia and New Zealand, 0 otherwise
XAFTA	AFTA vs off-AFTA dummy: 1 if the flow involves AFTA but not intra-AFTA, 0 otherwise
XNAFTA	NAFTA vs off-NAFTA dummy: 1 if the flow involves NAFTA but not intra-NAFTA, 0 otherwise
XCER	ANZCERTA vs off-ANZCERTA dummy: 1 if the flow involves ANZCERTA but not intra-ANZCERTA, 0 otherwise
AFTACER	AFTA-CER dummy: 1 for flows between AFTA and ANZCERTA, 0 otherwise
EAEC	EAEC dummy: 1 if the flow involves EAEC members, 0 otherwise
FTAACER	FTAA-CER dummy: 1 for flows between APEC FTAA members and ANZCERTA, 0 otherwise
JAPKOR	Japan-Korea dummy: 1 if the flow involves Japan and Korea, 0 otherwise

measure the trade creation effects in the existing SRTAs. The FTAA dummy was not added to the model because the sample does not cover the non-APEC FTAA members in the sample. On the other hand, XAFTA, XNAFTA and XCER are the dummies for the trade flows between the existing SRTA members and the non-members. These measure the existing APEC SRTAs' trade diversion effects, which possibly drive out the non-members in favor of member countries. Negative signs of the estimated coefficients show the existence of adverse trade diversion effects. The last four variables, AFTACER, EAEC, FTAACER, and JAPKOR are the dummies for the potential APEC SRTAs. These measure the trade creation effect in each potential SRTA[6]. Since the database does not cover the South American economies, FTAACER

[6] The variables concerning the trade diversion effects of the potential SRTAs were not added in the model because the dummies for the transactions between potential SRTAs and their non-members usually overlap with those for existing SRTAs, and in some cases those added variables resulted in perfect

is in fact the NAFTA-CER dummy.

3.2. Data Compilation

(1) Sample Years: The collected data cover the years 1970, 80, 90, 95, 96, and 97. For each one-year dataset, one regression was run using the above model so we can observe the change in estimated coefficients over time.

(2) Country Coverage: 16 countries. 15 major APEC members plus the EU, which is defined as the sum of initial 12 members in this study. Specifically, APEC members included are Japan, China, Korea, Taiwan, Hong Kong, Singapore, Malaysia, Indonesia, Philippines, Thailand, Australia, New Zealand, United States, Canada and Mexico. 12 EU members are Great Britain, Holland, France, Germany, Ireland, Spain, Portugal, Italy, Denmark, Belgium, Luxembourg and Greece.

(3) Trade Data: Nominal US dollar figures. The figures up to 1990 were taken from IDE's trade data retrieval system (*AIDXT*), and the figures after 1995 were mainly taken from IMF, *Direction of Trade Statistics (DOT).* Since DOT does not provide sufficient information about Taiwan, which is not a member of the IMF, the data involving Taiwan were taken from Department of Statistics, Republic of China, *Monthly Statistics of Exports and Imports*. Some DOT reporting countries do not provide sufficient data for small trade partners. In those cases, data were replaced by import figures provided by the importing countries.

(4) GDP Figures: Nominal US dollar figures. Figures are mainly based on IMF, International Financial Statistics (IFS). However, IFS does not provide GDP figures for some Asian economies, such as Taiwan and Hong Kong. Such missing data were supplemented by the Asian Development Bank (ADB), *Key Indicators of Developing Asian and Pacific Countries.*

(5) Distance: Basically marine distance between two major ports. Sometimes one country has two ports used for different destinations. For example, it was assumed that the United States uses Los Angeles for Asian trade, and New York for

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collineality.

European trade. The treatment for adjacent economies basically followed Hirata et al (1985).

3.3. Estimation Results

Table 6 shows the results of regressions. The performances of the regressions are quite good, as seen from high R-squared figures. GDP, Distance, Interport effect, and country specific dummies were estimated to considerably affect the international trade flows in APEC.

As for the existing APEC SRTAs, we can observe from **Table 6** and the left-hand side of **Figure 1** that the trade creation effect of the existing APEC SRTAs have gradually become strong. Before 1990, the currently existing SRTAs did not have significant trade creation effect. NAFTA and AFTA even had adverse effects. However, the trade creation effect markedly improved after 1990. This period coincides with the official launch of AFTA and NAFTA, and with the organizational evolution period of APEC. Also, in 1997, the trade creation effect of AFTA was strengthened. The following two factors lay mainly behind this strengthening: One is the downward changes in relative prices in the region due to the harsh depreciation of the region's national currencies. Because of the fall in prices in neighboring economies, AFTA members started to use their neighbors more as trade partners. The other factor is, somewhat related to the depreciation, the foreign exchange shortage in most of the AFTA members. As a result of the foreign exchange shortage, traders started to think about trade using the region's national currencies or barter trade. Eventually, it is supposed, traders in AFTA chose neighboring economies as partners of trade in these forms.

The trade diversion effect of the existing APEC SRTAs have not deteriorated or even become weak over time. The launch of AFTA and NAFTA and the evolution of APEC do not seem to have adversely affected the trade diversion effect of the existing APEC SRTAs. In 1997, data show that AFTA members tended to trade with non-members in larger volume compared with the standard case in the sample, although the statistical significance was marginal. This reflects AFTA members' efforts to export

Table 6. Summary Table for the Regression Results

Dependent Variable: ln Tij

Explanatory Variables	Estimated Coefficients					
	1970	1980	1990	1995	1996	1997
CNST	12.816 ****	11.755 ****	11.296 ****	9.240 ****	8.683 ****	8.839 ****
GDPX	1.133 ****	0.897 ****	0.848 ****	0.819 ****	0.854 ****	0.847 ****
GDPM	1.029 ****	0.910 ****	0.890 ****	0.827 ****	0.863 ****	0.860 ****
DIST	-1.063 ****	-0.864 ****	-0.825 ****	-0.529 ****	-0.534 ****	-0.540 ****
HK	1.731 ****	0.815 ****	0.952 ****	1.104 ****	1.104 ****	0.991 ****
SPORE	2.473 ****	2.023 ****	1.607 ****	1.338 ****	1.331 ****	1.181 ****
CHN	-4.025 ****	-1.368 ****	-0.938 ****	-0.448 ***	-0.422 ***	-0.551 ****
MEX	-2.244 ****	-2.351 ****	-1.951 ****	-1.841 ****	-1.561 ****	-1.813 ****
AFTA	-0.477	-0.779 ***	-0.232	0.458 *	0.473 *	0.626 ***
NAFTA	-2.043 ***	-1.003 ***	-0.821 ***	0.467	0.268	0.355
CER	0.795	0.738	0.667 *	1.376 ***	1.487 ****	1.424 ****
XASEAN	-0.042	-0.325 **	-0.059	0.085	0.111	0.256 *
XNAFTA	-1.669 ****	-0.832 ****	-0.646 ****	-0.742 ****	-0.747 ****	-0.739 ****
XCER	0.440	-0.031	-0.201	-0.268	-0.243	-0.239
AFTACER	-0.456	0.328	0.153	0.111	0.142	0.111
EAEC	-0.066	0.242	-0.009	-0.091	-0.029	-0.012
FTAACER	0.377	-0.345	-0.306	-0.471	-0.358	-0.418
JAPKOR	-0.874	-1.159 **	-1.082 ***	-0.507	-0.515	-0.516
R-squared(adj)	0.618	0.817	0.883	0.845	0.846	0.848
Log Likelihood	-456.3	-289.5	-232.6	-262.4	-256.7	-250.5
S.E. of regression	1.801	0.872	0.675	0.765	0.733	0.714

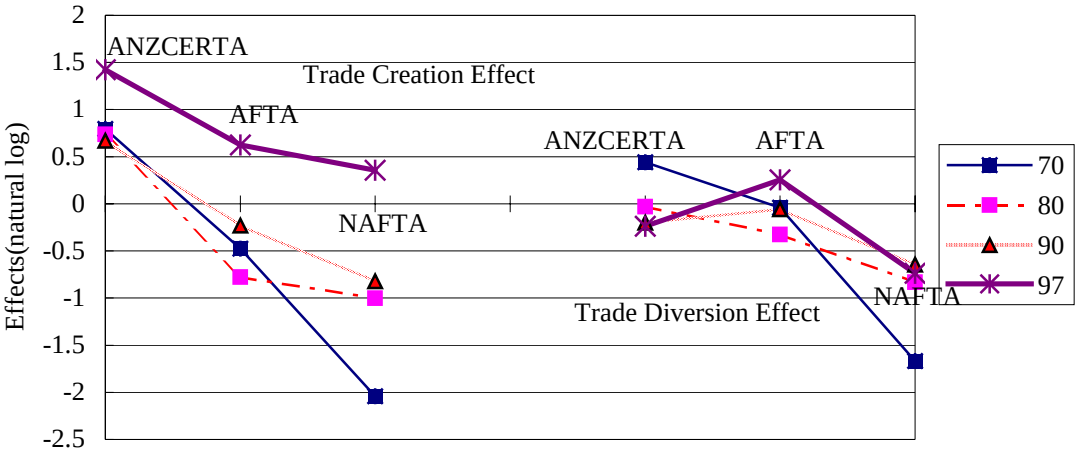
Notes: Refer to Table 5 for the description of the variables. Asterisks(*) signify the level of significance of each variable, and the thresholds are as follows.

20% significant ****
10% significant ***
5% significant **
1% significant *

more to advanced countries, mainly the United States, in order to compensate for the damage brought about by the economic turbulence. In sum, it seems fair to say that the existing APEC SRTAs have brought about favorable effects on the sample economies, that is, other APEC members.

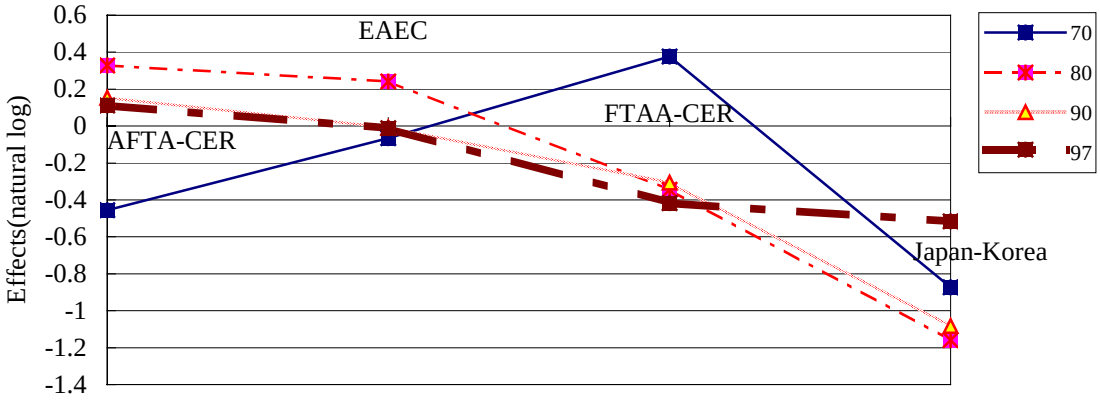
On the other hand, trade creation effects of potential APEC SRTAs are not very impressive, and they give an impression that their internal trade relations are still immature. As **Table 6 and Figure 2** show, the estimated coefficients are generally statistically insignificant. The result show no case in which the trade creation effect was measured significantly positive, and the results for the Japan-Korea dummy (1980 and 90) even show significantly adverse effects, possibly reflecting their competitive

Figure 1. Trade Creation and Diversion Effect
---Existing APEC SRTAs---



Source: Drawn from Table 6

Figure 2. Trade Creation Effect
---Potential APEC SRTAs--



Source: Drawn from Table 6.

trade structures. The FTAA-CER dummy greatly decreased its value in 1980 compared with 1970. The decrease mainly reflects the fact that throughout the 1970s Australia relatively decreased its North American trade in favor of Asian trade---most notably with Japan. After 1980, the estimated coefficients of the FTAA-CER dummy stayed almost the same level and did not show any remarkable recovery. Also, the AFTA-CER effect was insignificant. However, some improvement took place in 1980. Nevertheless, throughout the 1990s, the trade creation effects of the potential APEC SRTAs have not deteriorated considerably. In the case of the Japan-Korea linkage, the

adverse effect lessened greatly, and the estimated coefficient became insignificant for 1997. This may reflect the recent trend that Japan yielded its competitive edge in some items to Korea: Japan has started to import iron and steel products, petro-chemical products, ships, and automobile parts from Korea. Japan used to import very little of these products a decade ago due to her strong competitiveness or regulations. Lastly, the effects from the EAEC seems to be trivial, at least in the model adopted in this study[7]. In sum, the model suggests the trade creation effects of the potential APEC SRTAs seem unremarkable at least until recently. However, a slight improvement took place in some cases.

4. What is the future of the potential APEC SRTAs?

The analysis in the previous section revealed that the existing APEC SRTAs have had favorable effects, and the effects have gradually intensified. In other words, the performance of the existing APEC SRTAs proved to be "APEC consistent" because the launch of those SRTAs did not harm non-members. On the other hand, the effects of the potential APEC SRTAs are still ambiguous. Then, what is the difference between existing and potential SRTAs? The simplest answer is whether or not a SRTA officially launched. But evidently, an official launch does not substantially affect the economic impact of a SRTA. In the following subsections, we will first analyze why the existing SRTAs were successful and then consider why the potential SRTAs have not performed well.

4.1. Factors leading to the success of existing SRTAs

In fact, various preconditions lead to the success of each existing APEC SRTAs. These preconditions are summarized as follows:

[7] The proposed EAEC would consist of the AFTA members plus the major East Asian Economies of Japan, Korea and China. In our model, the possible effects of the EAEC are almost absorbed in AFTA, Japan-Korea, and China dummies. This may lead to a trivial coefficient value in the regression.

(1) Long history of effort toward integration: As for ANZCERTA, Australia and New Zealand have spent more than three decades achieving their current high economic integration. For NAFTA, even before the official launch of NAFTA, the three member countries were already highly integrated. Specifically, the U.S.-Canada relation was somewhat horizontal under the Canada-US Free Trade Agreement (CUSFTA). On the other hand, the U.S.-Mexico relation was relatively vertical. Before the official formation of the free trade area, AFTA members were relatively independent of each other. Nevertheless, they have a long history of internal contacts moving toward political and diplomatic integration through ASEAN, established in 1967. As mentioned above, AFTA embodies the economic aspect of ASEAN.

(2) Geographical closeness: One can easily notice that the members of the three existing SRTAs are geographically close to each other. Geographical closeness was one of the important reasons for long-lasting efforts toward developing economic integration. Neighboring countries should naturally feel needs to facilitate trade and investment between themselves. Such needs often lead to economic integration. Since our model by definition controls the geographical closeness between the members of the existing SRTAs, the benefits from integration efforts in SRTAs is more properly captured by regional dummies, such as dummies for the existing APEC SRTAs. Therefore, the estimation results for the regional dummies should be interpreted as something beyond geographical closeness.

(3) Complementarity of trade structures: In NAFTA, the United States takes advantage of less expensive labor in Mexico, symbolized by bond processing in the Maquiladora area. Also, Canada provides a stable market for a wide range of U.S. products. In AFTA, Singapore plays a very unique role as the region's gateway port. Singapore imports items that neighboring AFTA economies have competitiveness in the world market. Also, as mentioned above, direct trade between other AFTA members increased recently due to the economic turbulence. Lastly, as for ANZCERTA, trade structures do not seem complementary because they export and import similar items to the world. But detailed investigations of the trade structures of Australia and New Zealand reveal that Australia's exports to

New Zealand are considerably concentrated in manufactured goods compared to its exports to the world[8] . This tells us that New Zealand plays a unique role that contrasts with other trade partners. Match of Intra-regional trade structures can also be measured by trade complementarity indexes (Cij)[9]. For group aggregated figures of Cij, see **Table 7**. According to the author's calculations, intra-regional complementarity indexes for AFTA, ANZCERTA, and NAFTA in 1990 were 1.04, 0.73 and 1.05, respectively. Intra-regional Cij's for AFTA and NAFTA exceeded unity, which tells us that the trade structures of the member economies are more complementary compared with the global average. In the case of ANZCERTA, it looks like the opposite. But even in this case, inferred from the fact that Australian exports to New Zealand are heavily concentrated in manufactured products, bilaterally specific needs can enhance the intra-regional trade.

4.2. Potential APEC SRTAs---why they remain "subliminal" ?

Our model showed that the potential APEC SRTAs have not performed remarkably compared to existing SRTAs, such as AFTA. This result should not be a surprise because the potential SRTAs are not yet real entities. Nevertheless, by contrasting the reasons for the existing SRTAs' success and the potential SRTAs' poor performances, the author would like to consider why the potential APEC SRTAs remain

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[8] Okamoto(1998) clearly shows that the share of manufacturing products in Australia's exports to New Zealand has been far higher in comparison with the ratio of its exports to the rest of the world. In 1995-6, manufactured products occupied about three quarters of the Australian exports to New Zealand, while the share in exports to the world was only about 35%.

[9] The definition of trade complementarity index is as follows.
Cij= Σ h [(RCAxih)*(RCAmjh)*(Wh/W)], where
Cij:complementarity index for Country i's exports and J's imports,
RCAxih:Country i's revealed comparative advantage index of exports of commodity h
RCAmjh: Country j's revealed comparative advantage index of imports of commodity h
Wh/W: share of commodity h in world trade.
The definition of revealed comparative advantage is as follows.
RCAxih＝(Xih/Xi)／(Wh/W), where
Xih:exports of commodity h from Country i to the rest of the world,
Xi:Country i's total export.
RCAmih is also definied in a similar manner. The global average of Cij's makes unity, so an above-unity Cij implies that the trade structures of the exporting country i and the importing country j fit better than the global average. For details about trade complementarity indexes and revealed comparative advantage indexes, see Okuda (1997).

Table 7. Trade Complementarity Indexes (Cij's) in APEC

Country& year		Japan	China	NIES	ASEAN	ANZ	NAFTA	(US)	EU12	APEC16
Japan	70	------	1.28	1.18	1.14	1.28	1.07	1.01	0.95	1.11
	80	------	1.23	1.09	1.17	1.30	1.14	1.03	0.96	1.15
	90	------	1.13	1.00	1.13	1.16	1.15	1.12	0.97	1.12
China	70	1.43	-----	1.62	1.10	0.86	0.94	1.02	1.20	1.09
	80	1.09	-----	1.18	0.94	1.07	0.89	0.92	1.11	0.97
	90	1.12	-----	1.15	0.85	0.89	1.00	1.05	1.03	1.03
NIES	70	0.61	0.59	0.89	0.77	0.87	1.08	1.20	1.00	0.94
	80	0.54	1.21	1.01	0.92	1.18	1.02	1.05	1.15	0.93
	90	0.78	1.05	1.04	1.00	1.06	1.05	1.09	1.00	1.01
ASEAN	70	2.41	1.29	1.44	1.02	0.66	0.85	0.99	1.29	1.23
	80	1.58	1.21	1.19	1.08	0.84	0.97	1.04	1.06	1.12
	90	1.23	0.94	1.11	1.04	0.89	0.98	1.04	0.97	1.05
ANZ	70	2.09	1.44	1.34	1.00	0.79	0.97	1.06	1.30	1.24
	80	1.37	1.52	1.13	0.90	0.84	0.83	0.80	1.07	1.01
	90	1.68	0.91	1.01	0.89	0.73	0.87	0.88	1.01	1.04
NAFTA	70	1.15	1.08	1.06	1.04	1.14	1.23	0.37	1.07	1.15
	80	0.91	1.24	1.07	1.02	1.06	1.19	0.28	1.00	1.03
	90	0.98	1.05	0.95	1.01	1.07	1.05	0.29	1.00	1.00
(US)	70	1.03	1.06	1.12	1.08	1.18	1.22	-----	1.04	1.12
	80	0.79	1.36	1.12	1.07	1.13	1.24	-----	1.00	1.03
	90	0.87	1.10	1.00	1.06	1.13	1.05	-----	1.00	1.00
EU12	70	0.73	1.16	1.11	1.13	1.19	1.12	1.08	-----	1.05
	80	0.61	1.11	1.03	1.05	1.20	0.98	0.93	-----	0.92
	90	0.81	1.07	0.97	0.98	1.06	0.99	0.97	-----	0.96
APEC16	70	1.29	1.13	1.13	1.05	1.10	1.15	1.10	1.08	1.14
	80	1.00	1.24	1.10	1.04	1.09	1.10	1.01	1.02	1.06
	90	1.01	1.05	1.03	1.03	1.05	1.06	1.07	0.99	1.04

Remarks: Shaded areas have Cij values higher than 1.1.
Sources: Author's calculation using the data sources same as Table 1.

"subliminal" entities. Potential SRTAs lack one or more success factors mentioned above.

First, as shown in **Tables 2 and 3**, potential SRTAs generally started to be advocated rather recently compared to the existing ones,. Behind the formation of the existing SRTAs lays natural needs for further economic integration commonly held by the related countries. On the other hand, some of the newly advocated potential SRTAs only have weak natural connections.

Secondly, possible participants for some potential SRTAs are geographically separated from each other. The distances between ANZCERTA and AFTA members,

and ANZCERTA and FTAA members are quite large. For example, Australia and Indonesia are adjacent countries, but the distance between main markets, say Jakarta and Sydney is approximately 4,000 sea miles. This distance is almost equal to that between Sydney and Tokyo. Of course FTAA members are more distant from Australia and New Zealand. We can easily infer that distance hindered natural needs for economic integration between ANZCERTA and AFTA members, and ANZCERTA and FTAA members.

Thirdly, the trade structures between exporting and importing countries do not necessarily match in the potential APEC SRTAs. One example is Korea's exports to Japan. In 1990, according to the author's calculation, the Cij index for Korea's exports to Japan recorded only 0.72, which shows that Korea's export structure was highly competitive with that of Japan's imports. In fact, Korea's export commodities, which penetrated quite quickly into other major markets in the world, could hardly conquer the Japanese market. The estimated coefficient for the Japan-Korea dummy for 1990 showed a negative sign. For the EAEC, competitive trade structures of China and AFTA members can lead to a trivial estimation result.

4.3. Really no hope for potential SRTAs?

Nevertheless, the poor performances of the potential APEC SRTAs at this present moment do not always imply that they will remain insignificant forever. There are several reasons for their success.

Firstly, geographical separation can be overcome under certain circumstances. A good example is the Commonwealth, comprised of former British colonies which are located all over the world. In a gravity model analysis of Fujita's paper in Chapter Ⅲ of this book, she estimated significant coefficients for the Commonwealth dummy and interpreted that historical ties and common language lead to the favorable estimation result. In this regard, FTAA-CER, specifically the NAFTA-CER linkage which shares a common language, seems to have some advantage. Also, ANZCERTA's extensive efforts to ally itself with other groups in APEC can be interpreted as its struggle to break through their isolation from major markets.

Secondly, mismatched trade structures between two countries can also be

overcome. We can find a favorable change in our estimation results for the potential APEC SRTAs. Estimated coefficients for the Japan-Korea dummy were negative for all the sample years, but as mentioned above, the negative impact weakened over time. This is possibly due to Japanese industrial structures transforming into an "import friendly" direction in several industries, such as material industries. Therefore, materialization of potential SRTAs should be carried out primarily considering the complimentarity of trade structures among the participants. For example, as of 1990, high Cij values are calculated for the trade flows from ASEAN to Japan, from ASEAN to NIEs, and from the United States to ANZCERTA.

Lastly, in order to fully upgrade a potential SRTA into an established one, participants should hold internal dialogues in a way that will strengthen political and diplomatic ties within the SRTA. That way the ties among the participants will become long lasting and will eventually help potential STRAs progress into formalized SRTAs. Last autumn Korea proposed further enhancement of the Japan-Korea economic relations and aimed to further diplomatic intimacy as well. Also, the EAEC from the beginning aims to help Asian economies collectively cope with the overwhelming influence of the United States. But at the same time, if the dialogues lose sight of economic benefits, they possibly will not last long.

5. Conclusion

We first defined and reviewed the existing APEC SRTAs and the potential APEC SRTAs which are not yet formalized, but they are progressing toward full implementation. Next, we examined the trade creation and diversion effects of the existing APEC SRTAs, and we compared them with the trade creation effects of the potential SRTAs. The gravity model adopted in this study affirmed that the existing SRTAs show steady advancement toward a cycle of trade expansion. On the other hand, the potential SRTAs are found to have no remarkable trade creation effects, at least until 1997. Analysis revealed that the following factors are important for the

success of the SRTAs:

(1)natural needs for economic integration backed by historical dialogues among the SRTA participants;

(2)geographical closeness; and

(3)complementarity of trade structure among the participants.

Through this analysis, the author pointed out that potential APEC SRTAs lack some of these factors. Lastly, an important clue toward potential SRTAs' full upgrade is the balance maintained between diplomatic and economic goals, which will develop long lasting dialogue and eventually build historically strong ties among the SRTA participants.

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Appendix Table Trade Matrix in APEC---1997 (Million US dollars)

	Japan	China	NIEs3	AFTA7	ANZ CERTA	NAFTA	USA	APEC nes	APEC	EU15	World
Japan	0	22	82	70	9	128	118	3	314	66	421
China	32	0	57	12	2	35	33	3	141	24	183
NIEs3	38	80	53	49	7	101	92	4	332	61	446
AFTA7	48	11	48	84	8	70	66	2	271	53	355
ANZCERTA	14	3	12	11	7	7	6	2	57	8	77
NAFTA	74	14	69	51	15	547	272	12	781	156	1011
USA	66	13	63	48	14	222	0	10	435	141	688
APEC nes	7	5	5	2	1	10	9	1	30	34	111
APEC	213	135	326	278	50	899	597	25	1926	402	2605
EU15	41	19	57	51	17	183	159	33	400	1292	2114
World	305	165	425	358	73	1156	867	90	2572	1965	5635

Remarks: The members of each group are as follows:
NIEs3: Korea, Taiwan, Hong Kong;
AFTA7: Singapore, Malaysia, Thailand, Philippines, Indonesia, Brunei, Vietnam;
ANZCERTA: Australia, New Zealand;
NAFTA: United States, Canada, Mexico;
APEC nes: Russia, Peru, Chile, Papua New Guinea

Sources: International Monetary Fund, “Direction of Trade Yearbook 1998”;
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